247 SECURITY

mDVR 300 SERIES

USERS MANUAL

mDVR306

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USER MANUAL

mDVR306

Rugged Digital Video Recorder for In-Vehicle Applications 6 Video/Audio Channels 60fps Total

V11.0720

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1. GENERAL INFORMATION AND SPECIFICATIONS

1.1. INTRODUCTION

DVR stands for Digital Video Recorder with one common goal, allowing end-users to record / retrieve real time video files with a few mouse clicks. Within the last decade, video encrypt/decrypt algorithms achieved noticeable improvement along with the availability of large capacity digital storage devices that draw attention to designing DVR systems. With this in mind, 247Security Inc. has designed and built the mDVR306 Series equipment to make this transition smooth for the in-vehicle applications, specifically the transportation industry.

The mDVR306 employs high performance video compression MPEG5 standard to optimize video/audio data stream so that it can be sent over a network or stored directly on a local disk. The compression algorithm mainly runs on a DSP Engine, therefore freeing up valuable resources within the system to do other jobs. The mDVR306 has features such as dynamic bit rate, controllable frame rate (max 60fps total), image quality control, real-time previewing on all channels, alarm triggers, sensor configuration, easy retrieval and transfer of video files over WIFI/LAN, GPS tracking and much more. In addition, mDVR306 allows end-users to independently manipulate these parameters for each camera if desired.

1.2. SPECIFICATIONS

Video Recording Resolution

- D1 (720x480)

Video Compression

- MPEG5 compression, high quality video images and low bandwidth usage

Video Recording Frame Rate

CAMERAS

FPS	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
5	5	10	15	20	25	30
8	8	16	24	32	40	48
10	10	20	30	40	50	60
12	12	24	36	48	60	72
15	15	30	45	60	75	90
20	20	40	60	80	100	120
25	25	50	75	100	125	150
30	30	60	90	120	150	180

Note: options in RED are invalid and will not work

- All channels can record simultaneously at 60fps total with D1 (720x480) resolution

Video recording channels
- Up to 6 channels, 60fps total

Audio Recording Channels
- Up to 6 audio channels; Camera has built-in noise-reduction microphone
- One audio recording channel synchronized to each video recording channel

Camera connection
- Video, Audio, Power and Encryption all in one cable, with locking mechanism

Internal video storage
- Hot Swap Removable drive
- Up to 500 GB
- Rugged
- USB. 2.0
- Integrated heater

Wireless Network
- WLAN 802.11g

GPS
- GPS module can be connected to DVR using one cable, up to 40' in length
- GPS data can be logged for over 15 years

Ethernet
- 10/100 Base-T Ethernet port
- IEEE 802.3u 100BASE-T Fast Ethernet compatible

Sensors
- Up to 8 sensors can be connected

Alarms
- Up to 4 alarms can be connected

Indicators
- Power LED (green)
- Ignition LED (green)
- Record LED (amber)
- Error LED (red)
- Video Lost LED (red)

PHYSICAL/POWER

Housing
Ionized Aluminum for rugged applications

Form Factor
Depth: 184 mm (7.25 inches)
Width: 159 mm (6.25 inches)
Height: 51 mm (2 inches)
(Not including shock and vibration isolator)

Weight
Typically approximately 1.3 kg (2.8 lb)
(Not including shock and vibration isolator)

Power Supply
Vehicle power supply switcher
ESD protected

Battery
Lithium Coin Cell CR2032 (20.0 x 3.2 mm)
3 V / 235 mAh

Input Power Range
+8 VDC ~ +24 VDC normal operating voltage
+6 VDC ~ +28 VDC abnormal operating voltage up to 10 seconds
Over and under voltage protection

Ignition Signal / Power Down Timer
Software configurable delay power off signal from 1-120 minutes
50mA current draw in sleep mode after power down

Power Consumption
Typical 10W (5°C ~ 55°C)
DVR draws less than 24ma when off

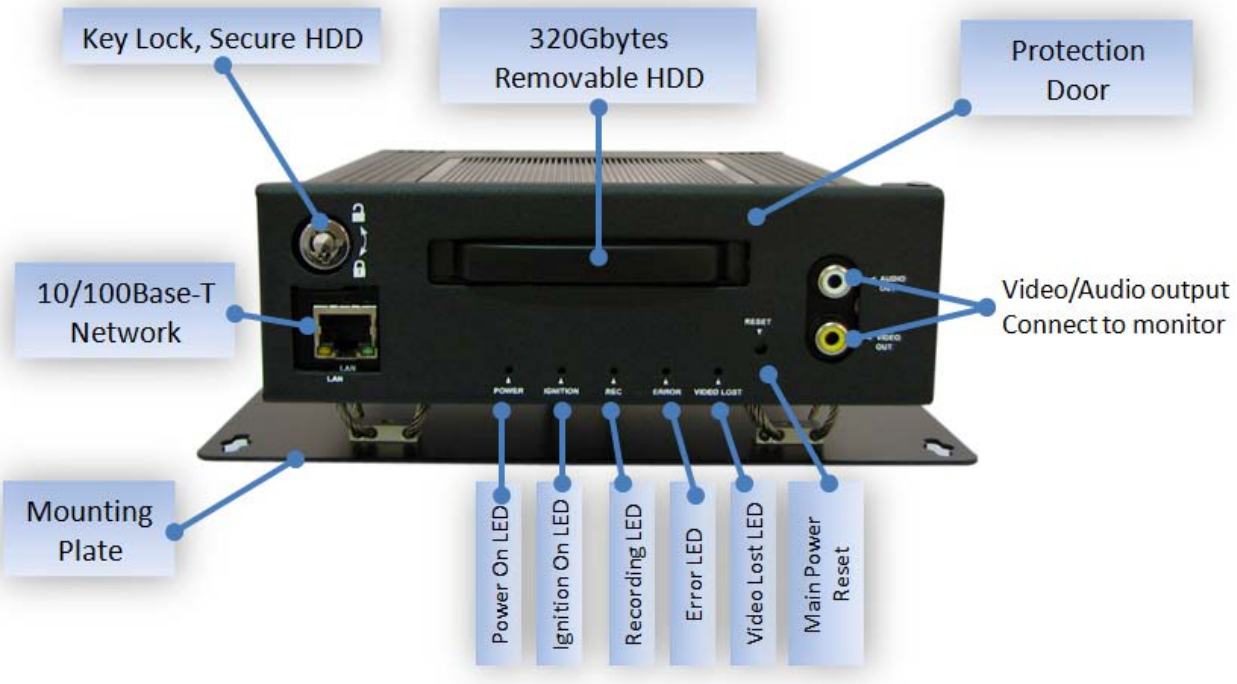
ENVIRONMENT

Temperature Range
-30°C to +55°C (-22°F to +131°F) operating temperature

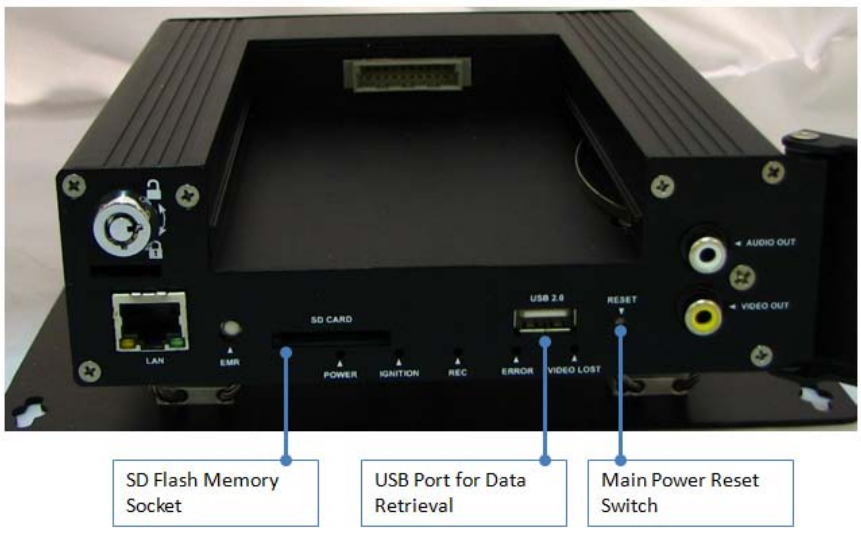
Relative Humidity
10% to 90% non-condensing

1.3. CONNECTORS & LED LOCATIONS

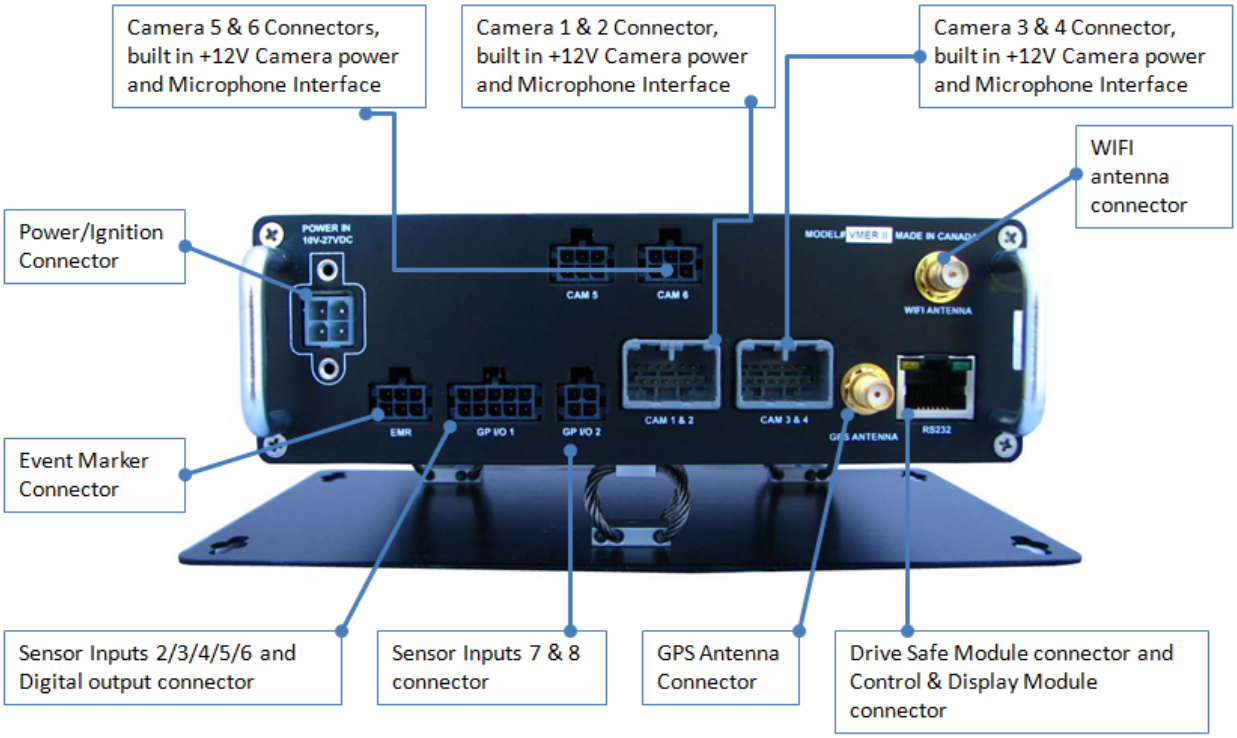
1.3.1. FRONT PANEL w/ Door Closed



Front View w/Door Open & HDD Removed



1.3.2 BACK PANEL

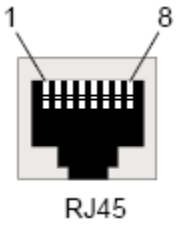

Camera 5 & 6 Connectors, built in +12V Camera power and Microphone Interface
Camera 1 & 2 Connector, built in +12V Camera power and Microphone Interface
Camera 3 & 4 Connector, built in +12V Camera power and Microphone Interface
WIFI antenna connector
Power/Ignition Connector
Event Marker Connector
Sensor Inputs 2/3/4/5/6 and Digital output connector
Sensor Inputs 7 & 8 connector
GPS Antenna Connector
Drive Safe Module connector and Control & Display Module connector
POWER IN 10V-27VDC
CAM 5
CAM 6
WIFI ANTENNA
EMR
GP I/O 1
GP I/O 2
CAM 1 & 2
CAM 3 & 4
RS232

2. PREPARATION FOR USE

2.1. FRONT CONNECTORS

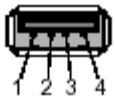
2.1.1. 10/100BASE-T LAN CONNECTOR

The RJ45 port allows access to the DVR from your laptop / computer using the included cross over cable. This port is labeled as LAN and has a default static IP address of 192.168.1.100.

Pin Number	Signal	Description	Pin out
1	TX+	Transmit Data +	
2	TX-	Transmit Data -	
3	RX+	Receive Data +	
4	RX-	Receive Data -	
5	NC	Not connected	
6	COM	Common	
7	COM	Common	
8	COM	Common	
9	COM	Common	

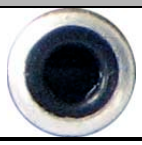
2.1.2. USB 2.0 CONNECTOR

Connector type: 4-pin friction-lock header

Pin Number	Signal	Description	Pin out
1	VCC	Cable Power +5 V	
2	-Data	Balanced Data Line -	
3	+Data	Balanced Data Line +	
4	GND	Cable Ground	

2.1.3. AUDIO OUT CONNECTOR

Connector type: RCA Jack

Pin Number	Signal	Description	Pin out
Inside	Audio	Audio Signal	
Outside	GND	Ground	

2.1.4. VIDEO OUT CONNECTOR

Connector type: RCA Jack

Pin Number	Signal	Description	Pin out
Inside	Video	Video Signal	
Outside	GND	Ground	

2.2. BACK CONNECTORS

2.2.1. WIFI CONNECTOR

Connector type: RP-SMA Jack

Pin Number	Signal	Description	Pin out
1	RF	RF Signal	
2	GND	RF Ground	

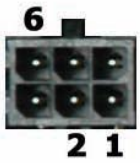
2.2.2. POWER INPUT CONNECTOR

The mDVR306 has a built-in Intelligent power switcher that can operate from +8V ~ +24V DC-IN. The ON/OFF signal connects to the vehicle's ignition signal. The mDVR306 uses this signal to trigger the power shut-off delay and the timing circuitry. The mDVR306 will remain ON until the shut-off delay time has been reached. The system will then go through its normal shutdown procedures before completely powering down. The GND (Common DC ground) signal should be connected to the vehicle common ground.

Pin Number	Signal	Description	Pin out
1	ON/OFF	On/Off Switch On when 6V ~ VIN Off when 0V ~ 0.5V	
2	GND	Ground	
3	VIN	Input voltage (+8V~+24VDC)	
4	GND	Ground	

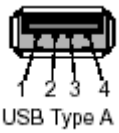
2.2.3. CAMERA 1-6 CONNECTORS

The mDVR306 supports a maximum of 6 cameras. These Micro-fit connectors are used to connect the six camera inputs to the mDVR306 system (video and audio) using a gang plug adapter for cameras 1-4. Also included in each camera connection is DV12V Out to power the camera. You can refer to the cover of the DVR for the PIN assignments of each connector. If any of these cameras are not connected properly (for instance loose cables, unplugged etc...) than the mDVR306 intelligently notifies the end-users with "NO VIDEO" on the preview screen. Camera inputs are labeled CAMERA 1, CAMERA 2, CAMERA 3, CAMERA 4, CAMERA 5, and CAMERA 6

Pin Number	Signal	Description	Pin out
1	MIC-IN	Microphone In	
2	GND	Ground	
3	Video+	Video In (+)	
4	Video-	Video In (-)	
5	+12VDC	+12VDC OUT	
6	GND	Ground	

2.2.4. USB 2.0 CONNECTOR

Connector type: 4-pin friction-lock header

Pin Number	Signal	Description	Pin out
1	VCC	Cable Power +5 V	
2	-Data	Balanced Data Line -	
3	+Data	Balanced Data Line +	
4	GND	Cable Ground	

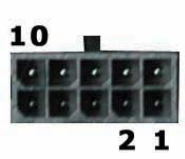
2.2.5. GPS CONNECTOR

Connector type: RP-SMA Jack

Pin Number	Signal	Description	Pin out
1	RF	RF Signal	
2	GND	RF Ground	

2.2.6. GENERAL PURPOSE INPUT / OUTPUT CONNECTOR #1

This connector provides 5 digital inputs and 1 digital output. The digital inputs are labeled as DI_1, DI_2, DI_3, DI_4, DI_5. The digital output is labeled as DO_3. End-users can assign any sensors to one of these digital input signals. Up to 5 sensors can be wired to this connector. Alternatively, one alarm (LED, Siren, etc.) is available on the digital output.

Pin Number	Signal Description	Pin out
1	Input DI_1	
2	Input DI_2	
3	Input DI_3	
4	Input DI_4	
5	Input DI_5	
6	Output DO_3	
7	GND	
8	GND	
9	+10V Standby	
10	+10V Standby	

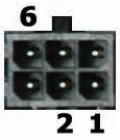
2.2.7. GENERAL PURPOSE INPUT / OUTPUT CONNECTOR #2

This connector provides 3 digital inputs. The digital inputs are labeled as DI_6, DI_7, DI_8. End-users can assign any sensors to one of these digital input signals, up to 3 sensors can be wired to this connector. This connector also provides +12VDC OUT on pin 4 with a built-in 0.75A fuse.

Pin Number	Signal Description	Pin out
1	Input DI_6	
2	Input DI_7	
3	Input DI_8	
4	+12VDC OUT	

2.2.8. EVENT MARKER CONNECTOR

This connector is used to plug in the included event marker cable.

Pin Number	Signal Description	Pin out
1	DI_0	
2	GND	
3	+12V OUT	
4	Output DO_0	
5	Output DO_1	
6	Output DO_2	

2.3. CABLE REQUIREMENTS

2.3.1. POWER CABLE

A 15 ft three wire power cable is included for connection between the DVR and your vehicle power and ignition signals. It is highly recommended that in-line fast blow fuses (7.5 amps) be installed on the two power input connections for safety pre-cautions.

Wire Color	Signal	Description	Picture
Red	VIN	Input voltage (8~24VDC)	
Black	GND	Ground	
White	ON/OFF	Ignition switched power (only hot when ignition is in RUN/ACC	

2.3.2. EVENT MARKER CABLE

A 15 ft cable is already connected to the Event Marker and pre-wired to a 2X3 Molex connector; the Molex connector will then connect to the event marker port on the back of the DVR. The event marker uses 3 digital outputs for Video Lost, Recording & Power LED's and 1 digital input for the push button. The push button is used for pre/post trigger recording which when pressed, marks the video files at that specific moment. Pre-event and Post-event time locking can be configured in the DVR setup.

Connector	Signal	Description	Picture
6-Pin Molex		Connects to Event Marker connector on DVR	

2.3.3. SENSOR / ALARM CABLE

A 15 ft sensor / alarm cable is provided to connect the 4 digital inputs, 1 digital output and motion sensor signals to the GP I/O port of the DVR.

Wire Color	Signal	Description	Picture
Brown	Input DI_1	Connects to Digital Input 1 of GP I/O connector (Pin 1)	
White/ Green	Input DI_2	Connects to Digital Input 2 of GP I/O connector (Pin 2)	
Green	Input DI_3	Connects to Digital Input 3 of GP I/O connector (Pin 3)	
White/ Orange	Input DI_4	Connects to Digital Input 4 of GP I/O connector (Pin 4)	
Orange	Motion Sensor	Connects to Motion Sensor of GP I/O connector (Pin 5)	
White/ Brown	Output DO_3	Connects to Digital Output 3 of GP I/O connector (Pin 6)	
Blue	GND	Connects to GND of GP I/O connector (Pin 7)	
White/ Blue	GND	Connects to GND of GP I/O connector (Pin 8)	

2.3.4. CAMERA CABLE

STP (shielded twisted pair) cable is the standard and will use 2X3 Molex plugs for connections making the installation simple and straight forward. The cable connectors are keyed so they cannot be connected incorrectly. Connect one end of the cable to one of the available camera inputs on the DVR and the other end into the camera.

Connector	Signal	Description	Picture
6-Pin Molex		Connects to DVR	
6-Pin Molex		Connects to camera	

2.3.5. GPS MODULE CABLE

A GPS module attached to a 25 ft cable connects to the back of the DVR using an RP-SMA connector

Connector	Signal	Description	Picture
RP-SMA Jack		Connects to GPS connector on DVR	

2.3.6. NETWORK CROSS-OVER CABLE

This cable connects a computer / laptop to the 10/100BASE-T LAN connector using the network standard RJ45 connector so that user can setup the DVR parameters as well as preview the video and audio from the video channels.

Connector	Signal	Description	Picture
RJ45		Connects to 10/100BASE-T LAN connector	

2.3.7. MINI USB CABLE

This cable connects the mDVR removable storage media to your computer or laptop for video / audio playback. This is a standard USB 2.0 Type A to 5 Pin mini-B Cable which should be no longer than 12 to 16 inches. See section 6 for instructions on how to use the DVRViewer application to connect to the storage media and play back your recorded video and audio.

Connector	Signal	Description	Picture
USB 2.0 Type A		Connects to your computer	
USB 2.0 5 Pin mini-B		Connects to the mDVR storage media	

2.4. CAMERA LENSES, WHAT VIEW, WHAT LENS

The chart below can be used as a guide when ordering and installing cameras in your vehicle.

Lens	Angle of View	Best focus distance	Viewable distance
2.9mm	120°	4 ft	10 ft
3.6mm	92°	5 ft	12 ft
6.0mm	54°	8 ft	20 ft
8.0mm	39°	10 ft	28 ft
12mm	26°	13 ft	35 ft
16mm	19°	20 ft	56 ft

Viewable distance means maximum range of the optimum standard

3. OPERATION

3.1. STATUS INDICATORS

3.1.1. IGNITION LED

This LED is to notify the operator that the vehicle's ignition has been turned on which will then turn on the DVR. This LED will be blinking when ignition is turned on and until DVR powers on. This LED will also blink when ignition is turned off and until DVR powers off.

3.1.2. POWER LED

This LED is to notify operator that system power is on.

3.1.3. ERROR LED

This LED is to notify operator that the system has encountered a problem and cannot continue normal operation. Please call tech support for troubleshooting procedures.

3.1.4. VIDEO LOST INDICATOR LED

This LED is to notify operator when any of the enabled cameras loses video signal meaning the cable is cut, not connected or the camera is having a problem.

3.1.5. RECORD LED

This LED indicates if the DVR is recording.

3.2. HDD ON/OFF LOCK

The HDD On/Off lock mechanism is employed to prevent unauthorized operators from removing the media storage and tampering with video data. Turn key to position "Close" to lock media storage or "Open" to unlock. The mDVR306 will **NOT** record video if the lock mechanism is in the "Open" position

3.3. MEDIA STORAGE REMOVAL

The media storage is hot swappable and can be removed and inserted without turning the ignition off. This process will take roughly 10 to 20 seconds to complete. The feature is helpful when access to video is needed but vehicle is still running its' route. User can remove the media storage and insert a new one so that the needed video can be retrieved right away.

1. Turn key to the "Open" position
   This process is necessary so that the mDVR306 can properly close all video/audio files and safely turn HDD
power off. Remove the front cover plate.

2. Gently pull media storage out from the bay

3. Insert new media storage – Wait for at least 30 seconds (Power LED is OFF) then insert new/original storage media, re-install the cover.

4. Turn key to the “Close” position
   The mDVR306 will now turn the HDD power on, detect the new media and start recording again.

3.4. WIRELESS VIDEO RETRIEVAL

(Refer to SmartServer manual)

3.5. REMOTE POWER CONTROL

(Future implementation)

3.6. EVENT MARKING AND RETRIEVAL

(Refer to Event Marking/USB Retrieval guide)

4. CONNECTING TO DVR

4.1. IP CONFIGURATION

The DVR default IP address is 192.168.1.100. The DVR is set up with a STATIC IP address to allow for a direct connection with a cross-over cable. During installation the DVR can be connected to a laptop allowing the installer to preview the cameras for aiming purposes.

4.2. CONNECT CROSS-OVER CABLE

During installation the DVR can be connected to a laptop allowing the installer to preview the cameras for aiming purposes. Using the grey cross-over cable shipped with the DVR, attach one end to the DVR port labeled LAN and the other end to the LAN port on the laptop. To verify the correct cable is used check the end of the cable for the "XOVER" label. Note: A patch cable (standard network cable) **will not work.**

4.3. SETTING UP YOUR PC

4.3.1. USING WINDOWS XP

4.3.1.1. Right click on My Network Places
4.3.1.2. Go to Properties and left click
4.3.1.3. Right click on Local Area Connection
4.3.1.4. Go to Properties and left click
4.3.1.5. Left click on Internet Protocol (TCP/IP)
4.3.1.6. Left click on Properties
4.3.1.7. Record ANY numbers on this screen for your record if needed
4.3.1.8. Left click on Use the following IP Address button
4.3.1.9. In the IP address window type 192.168.1.55
4.3.1.10. Left click mouse on Subnet mask and you should have 255.255.255.0
4.3.1.11. There should be no other numbers in the TCP/IP properties
4.3.1.12. Left click on OK or Close

4.3.2. USING WINDOWS VISTA

4.3.2.1. Right click on the Network icon on the desktop
4.3.2.2. Go to Properties and left click
4.3.2.3. Find Manage network connections under Tasks and left click
4.3.2.4. Right click on Local Area Connection
4.3.2.5. Go to Properties and left click
4.3.2.6. Message appears asking permission to continue, left click to continue
4.3.2.7. Left click on Internet Protocol Version 4 (TCP/IPv4)
4.3.2.8. Then left click on Properties
4.3.2.9. Record ANY numbers on this screen for your records if needed
4.3.2.10. Left click on Use the following IP Address button
4.3.2.11. In the IP address window type 192.168.1.55
4.3.2.12. Left click on Subnet mask and you should have 255.255.255.0
4.3.2.13. There should be no other numbers in the TCP/IP properties
4.3.2.14. Left click on OK or Close

Note: If the steps in setting up your PC do not work, contact you IT department concerning your PC, this is a one-time setup.

4.3.3. USING WINDOWS 7

4.3.3.1. Click on the Start button in the lower left corner
4.3.3.2. Select control panel
4.3.3.3. Select and open Network and Sharing center
4.3.3.4. Select Change adapter settings
4.3.3.5. Right click on Local Area Connection
4.3.3.6. Go to properties and left click
4.3.3.7. Left click on Internet Protocol Version 4 (TCP/IPv4)
4.3.3.8. Left click on Properties
4.3.3.9. Record ANY numbers on this screen for your records if needed
4.3.3.10. Left click on Use the following IP Address button
4.3.3.11. In the IP address window type 192.168.1.55
4.3.3.12. Left click on Subnet mask and you should have 255.255.255.0
4.3.3.13. There should be no other numbers in the TCP/IP properties
4.3.3.14. Left click on OK
4.3.3.15. Left click on Close

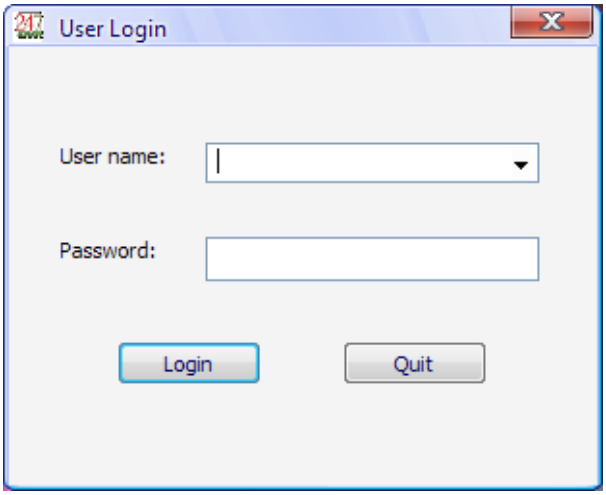
Note: If the steps in setting up your PC do not work, contact you IT department concerning your PC, this is a one-time setup.

5. DVR SETUP

5.1. STARTING DVRVIEWER

Verify that the mDVR306 has successfully powered up by checking the Power and Ignition LEDs which should be on and solid. The HDD Power LED should also be on. You can start the viewer software by finding the DVRViewer folder listed in the program folder in the start menu. Double-clicking on the icon "DVRViewer". The DVRViewer software should be included on the installation CD that is sent along with the unit. The mDVR306 requires DVRViewer version 11.0418 or higher (April 18, 2011)

5.2. DVRVIEWER LOGIN

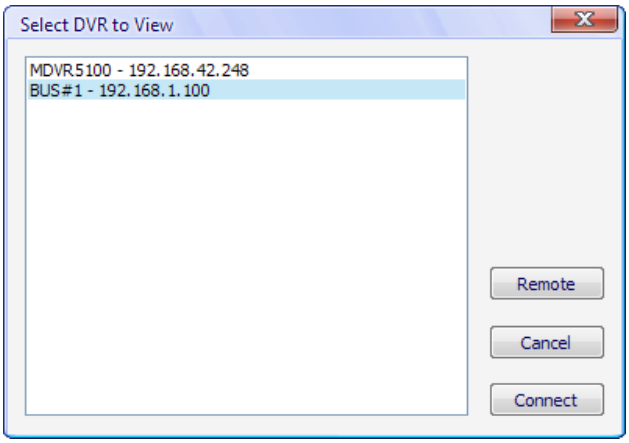


The first screen that appears when you start the DVRViewer application will be the LOGIN screen. If this is the first time logging in the default username and password will be "admin" and "247SECURITYINC". Both the Username and password are case sensitive. If you forget or lose your password please contact 247Security Inc. Technical Support for help.

Please make sure you change your temporary admin password to something else that is easier for you to remember by clicking on the "Users" button. Follow instructions on the screen to assign a new password.

5.3. CONNECTING TO DVR

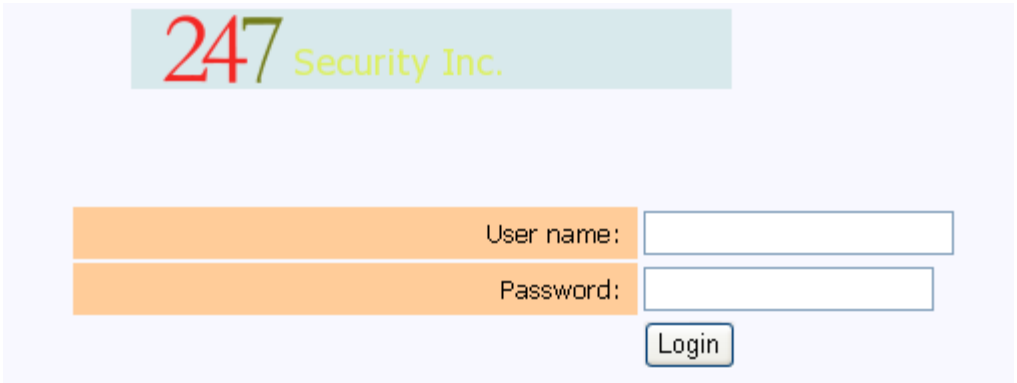
Once the DVRViewer application is running click on the play button and selects “Live View”. You will get the following window:



Select the DVR you want to connect to so that it’s highlighted and then click on “Connect” button. The first time you do this the default bus ID of bus001 – 192.168.1.100 will appear in the window.

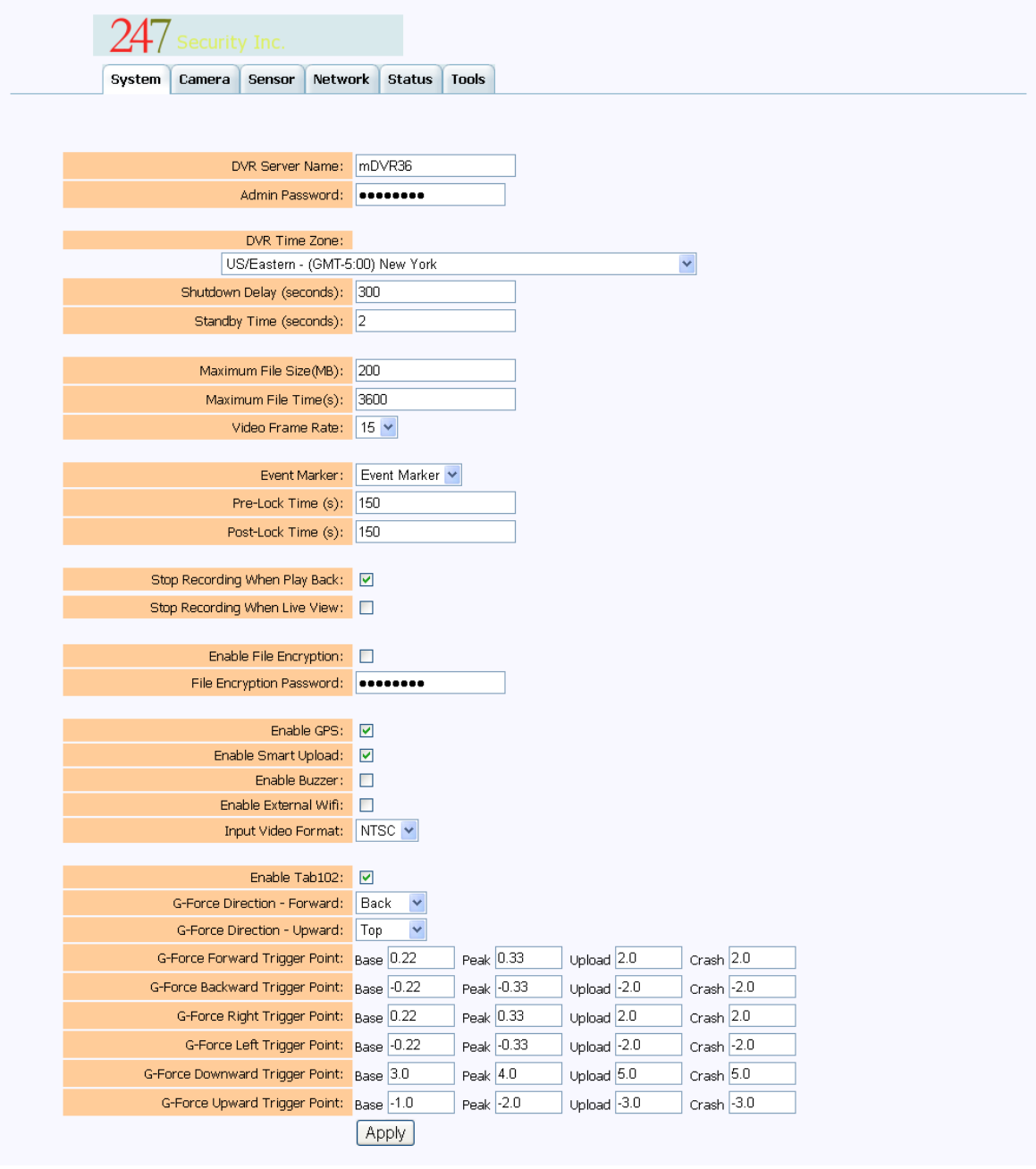
5.4. SETUP LOGIN

In this section, we will discuss how to configure the mDVR306 to meet your requirements. The process is straightforward and easy to follow; the DVR setup is divided into six major components: SYSTEM, CAMERA, SENSOR, NETWORK, STATUS and TOOLS. The system will already have been configured at the factory for your specific system requirements, but of course can be updated as needed.
You can access the SYSTEM CONFIGURATION by clicking on the “SETUP” button from the DVRViewer application and login in using the default username and password of “admin” and “admin”.

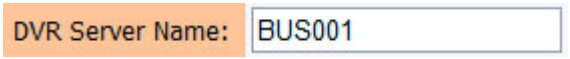


5.5. SYSTEM CONFIGURATION MENU

The system configuration menu is where you configure general parameters such as the name of the DVR, time zone, shutdown delay, etc. Also the G-Force set-up parameters are here if the Drive-Safe module is attached to the DVR.


247 Security Inc.
System
Camera
Sensor
Network
Status
Tools
DVR Server Name: mDVR36
Admin Password: ••••••••
DVR Time Zone:
US/Eastern - (GMT-5:00) New York
Shutdown Delay (seconds): 300
Standby Time (seconds): 2
Maximum File Size(MB): 200
Maximum File Time(s): 3600
Video Frame Rate: 15
Event Marker: Event Marker
Pre-Lock Time (s): 150
Post-Lock Time (s): 150
Stop Recording When Play Back:
Stop Recording When Live View:
Enable File Encryption:
File Encryption Password: ••••••••
Enable GPS:
Enable Smart Upload:
Enable Buzzer:
Enable External Wifi:
Input Video Format: NTSC
Enable Tab102:
G-Force Direction - Forward: Back
G-Force Direction - Upward: Top
G-Force Forward Trigger Point: Base 0.22 Peak 0.33 Upload 2.0 Crash 2.0
G-Force Backward Trigger Point: Base -0.22 Peak -0.33 Upload -2.0 Crash -2.0
G-Force Right Trigger Point: Base 0.22 Peak 0.33 Upload 2.0 Crash 2.0
G-Force Left Trigger Point: Base -0.22 Peak -0.33 Upload -2.0 Crash -2.0
G-Force Downward Trigger Point: Base 3.0 Peak 4.0 Upload 5.0 Crash 5.0
G-Force Upward Trigger Point: Base -1.0 Peak -2.0 Upload -3.0 Crash -3.0
Apply

5.5.1. DVR SERVER NAME

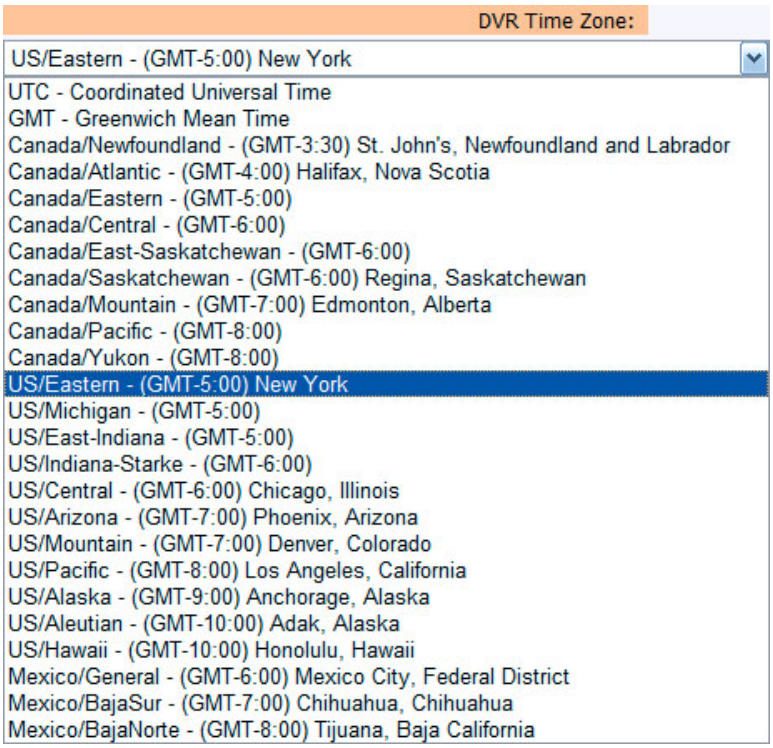


DVR Server Name allows end-user to individually assign each mDVR306 installed in the field a unique name so that the client software can easily communicate with each individual DVR system. DVRViewer can communicate and configure multiple mDVR306 systems simply by scanning all mDVR306 servers on the network. DVRViewer then composes a list of all available mDVR306 systems that the end-user can select to gain access to such systems. This feature is illustrated by clicking on "Play" and selecting "Live View"; you will see a list of all mDVR306 servers that you can select. By Clicking on any selected DVR server name you gain access to that particular mDVR306 system. The additional data to possibly input is the bus number as part of the text overlay. Highlight the "BUS001" in the server name box and change the bus name using letters & numbers with a maximum of 16 characters.
Note: (**DO NOT USE** Spaces or symbols)

5.5.2. ADMIN PASSWORD

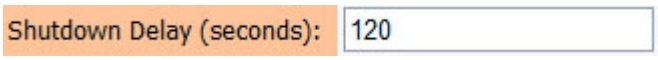
This is the DVR setup admin password which can be changed to avoid unauthorized access. Make sure the new password is recorded somewhere. The DVR setup login user name is "admin" and **cannot** change.

5.5.3. DVR TIME ZONE


DVR Time Zone:
US/Eastern - (GMT-5:00) New York
UTC - Coordinated Universal Time
GMT - Greenwich Mean Time
Canada/Newfoundland - (GMT-3:30) St. John's, Newfoundland and Labrador
Canada/Atlantic - (GMT-4:00) Halifax, Nova Scotia
Canada/Eastern - (GMT-5:00)
Canada/Central - (GMT-6:00)
Canada/East-Saskatchewan - (GMT-6:00)
Canada/Saskatchewan - (GMT-6:00) Regina, Saskatchewan
Canada/Mountain - (GMT-7:00) Edmonton, Alberta
Canada/Pacific - (GMT-8:00)
Canada/Yukon - (GMT-8:00)
US/Eastern - (GMT-5:00) New York
US/Michigan - (GMT-5:00)
US/East-Indiana - (GMT-5:00)
US/Indiana-Starke - (GMT-6:00)
US/Central - (GMT-6:00) Chicago, Illinois
US/Arizona - (GMT-7:00) Phoenix, Arizona
US/Mountain - (GMT-7:00) Denver, Colorado
US/Pacific - (GMT-8:00) Los Angeles, California
US/Alaska - (GMT-9:00) Anchorage, Alaska
US/Aleutian - (GMT-10:00) Adak, Alaska
US/Hawaii - (GMT-10:00) Honolulu, Hawaii
Mexico/General - (GMT-6:00) Mexico City, Federal District
Mexico/BajaSur - (GMT-7:00) Chihuahua, Chihuahua
Mexico/BajaNorte - (GMT-8:00) Tijuana, Baja California

The time zone set here will be the time zone where the vehicle will be operated.

5.5.4. SHUTDOWN DELAY (S)

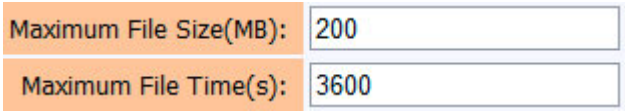


The Shutdown Delay parameter is used to control how long you want to keep the mDVR306 recording after the ignition key is switched to the OFF position in the vehicle. For instance, once the ignition key is switched OFF, the system will delay another x seconds (x seconds is the number that you have entered in the box from 10 seconds to 1200 seconds (20 minutes)) before shutting off mDVR306 system's power completely. This technique prevents potential file corruption or system crash the next time it boots up. The default value of 120 seconds is pre-set in the DVR.

5.5.5. STANDBY TIME (S)

The Standby mode will enable the DVR to enter into a low power consumption state so that after the vehicle's ignition has been turned off, DVR can still be accessed via the Wi-Fi connection for DVR configuration, live view and play back of video. When DVR enters standby mode, many hardware components are shut down to conserve power, recording of video is disabled and SmartServer upload occurs.

5.5.6. MAXIMUM FILE SIZE (MB) & MAXIMUM FILE TIME (S)

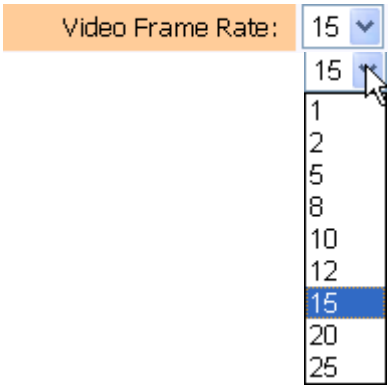


The menu basically defines how video files are recorded on the removable hard drive(s). There are two modes that video files can be recorded. (1) Video files can be recorded by file size "Maximum File (MB)" or (2) by file length "Maximum File Time (s)". In the field "Maximum File Size (MB)", you can enter values ranging from 10 MB to 300 MB. In the field "Maximum File Time (s)", you can enter values ranging from 60 seconds to 7200 seconds (2 hours).

There are pros and cons associated to each value you enter into this box. It can either slow down or speed up specific features of the DVR, for example, searching files in Play Back Mode, uploading video in the SmartServer upload process.

It is recommended the "Maximum File (MB)" values be from 100MB to 300MB for optimal performance. Each individual video file is broken into or stops recording when it has exceeded these programmable values and a new video file is automatically generated to continue the recording process.

5.5.7. VIDEO FRAME RATE

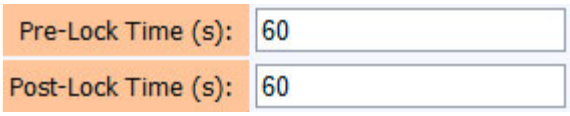


The frame rate listed is per camera (fps). NOTE: selecting a combination of number of cameras and FPS that exceeds the 60FPS total of the system will cause the system to experience issues. (example: 4 Cameras X 15fps = 60fps total which will work, BUT 5 Cameras X 15fps = 75fps which will not work)

5.5.8. EVENT MARKER

This drop down list will enable you to select which sensor to use for the event marker. The Event Marker (Sensor 1) is the default sensor to be used with the included event marker cable unless there is a required custom solution to use a different sensor.

5.5.9. PRE-LOCK TIME (S) & POST-LOCK TIME (S)

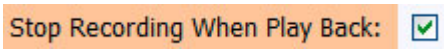


Pre-Lock Time (in seconds) defines how many seconds you want to include in the marked video event file prior to the time that special event occurs. For instance, if the Event Marker Button was pressed at 12:00pm and the Pre-Lock value was 60 then the marked video event file is generated to start at 11:59am exactly or a minute prior to the “event time”.

Similarly, Post-Lock Time is the time that occurs after the “event time”. For instance a value of 60 entered in Post-Lock will mark the file to stop at 12:01pm. Therefore, you have a marked video file that starts from

11:59am until 12:01pm. The mDVR306 allows the end-user to set the Pre-Lock and Post-Lock up to 600 seconds (10 Minutes). Values entered into these boxes are in seconds.

5.5.10. STOP RECORDING WHEN PLAY BACK



This option will disable recording when the DVRViewer application is connected to the mDVR in play back mode. Click this check box to enable this feature which will improve simultaneous multiple video channel play back.

5.5.11. STOP RECORDING WHEN LIVE VIEW

This option will disable recording when the DVRViewer application is connected to the mDVR in live view mode. Click this check box to enable this feature which will improve simultaneous multiple video channel live view.

5.5.12. ENABLE FILE ENCRYPTION

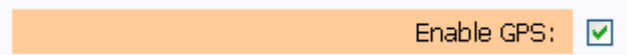
If this option is enabled, a password is required to encrypt the video / audio files. When playing back these same video / audio files the password will be requested. This is an additional security feature to keep unauthorized users from viewing the video. **Note:** (If the password is lost, the video **CAN NOT** be **retrieve**)

5.5.13. FILE ENCRYPTION PASSWORD

If file encryption is enabled (see above), this is where the password is set.

Warning: If you enable file encryption and forget your password, you will **NOT** be able to play back your recorded video / audio files.

5.5.14. ENABLE GPS

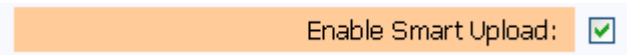


If this option is enabled and the GPS antenna is installed you will be collecting all the GPS information and storing on the HDD to be uploaded at a later time via the USB GPS Stick or the WIFI Touchdown system process in conjunction with the MiniTRACK process.

5.5.15. ENABLE TAB102

If this option is enabled the Drive-Safe™ external G-Force module for G-Force data collection in conjunction with the MiniTRACK or WIFI Touchdown system is connected

5.5.16. ENABLE SMART UPLOAD

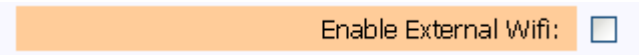


This needs to be enabled for automatic upload of Marked Video Events, Requested Video, GPS and Drive-Safe™ data via the WIFI Touchdown system.

5.5.17. ENABLE BUZZER

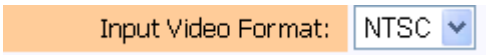
If this option is enabled and you have an event marker button with the buzzer option, you will receive an audio tone when the DVR powers up and a camera signal is not working.

5.5.18. ENABLE EXTERNAL WIFI



This option is only enabled for a DVR that does not include the internal WIFI connection. This would allow for the connection of the external WIFI bridge to work with an otherwise “non-WIFI” DVR for use on the WIFI Touchdown system.

5.5.19. INPUT VIDEO FORMAT



This can be set at NTSC (default) or PAL.

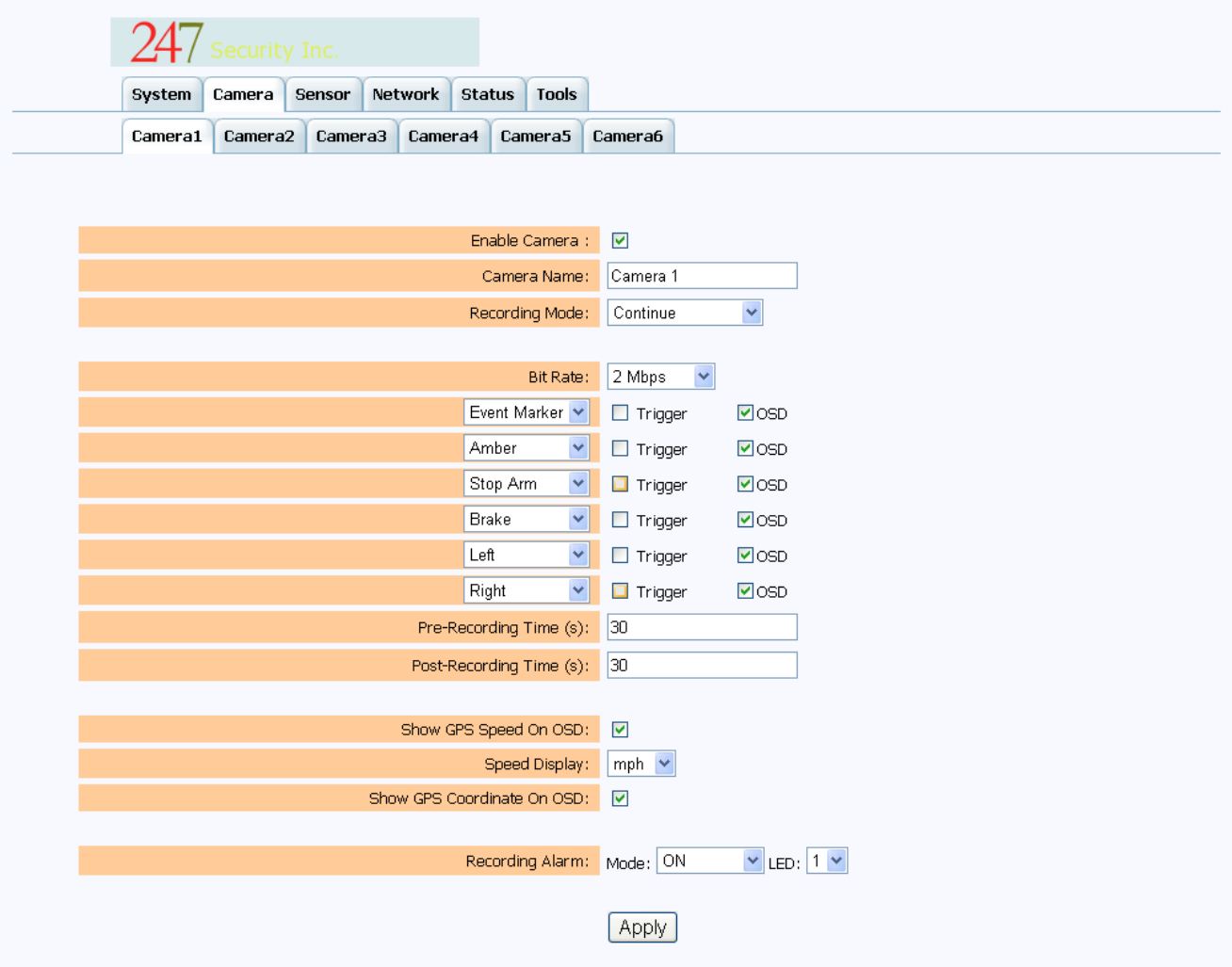
5.5.20. DRIVE-SAFE (G-FORCE SET-UP)

G-Force Forward Trigger Point:	Base	0.22	Peak	0.33	Upload	2.0	Crash	2.0
G-Force Backward Trigger Point:	Base	-0.22	Peak	-0.33	Upload	-2.0	Crash	-2.0
G-Force Right Trigger Point:	Base	0.22	Peak	0.33	Upload	2.0	Crash	2.0
G-Force Left Trigger Point:	Base	-0.22	Peak	-0.33	Upload	-2.0	Crash	-2.0
G-Force Downward Trigger Point:	Base	3.0	Peak	4.0	Upload	5.0	Crash	5.0
G-Force Upward Trigger Point:	Base	-1.0	Peak	-2.0	Upload	-3.0	Crash	-3.0

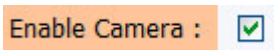
If the TAB102 option is checked as listed above, the G-Force parameters will then appear on the system set-up page after a system re-boot. NOTE: DO NOT CHANGE ANY OF THE BASE, PEAK OR CRASH VALUES.
The only values to possibly change are those associated with the UPLOAD. The Upload process works in conjunction with the WIFI Touchdown system, systematically uploading 30 seconds of video pre & post if the G-Force trigger point meets or exceeds the value in the Upload column for the associated trigger. G-Force data values work with the GPS MiniTRACK option to be displayed in a text report or on a map. See the Drive-Safe™ manual for further clarification.

5.6. CAMERA CONFIGURATION MENUS

The mDVR306 series is available in the 6 camera inputs configuration. You can select any camera by clicking on its tab where a sub-menu is available for configuration.

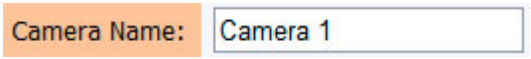


5.6.1. ENABLE CAMERA



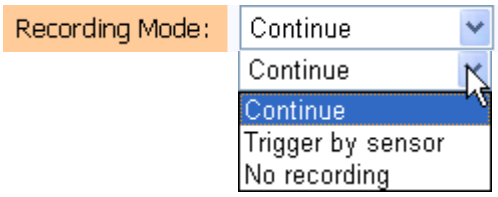
Click the check box to enable or disable the camera input.

5.6.2. CAMERA NAME



Each camera can have a different name based on where it is located in the vehicle. The value can be up to 16 characters long.

5.6.3. RECORDING MODE



For recording, there are three modes that you can select from. Each camera input can record in "Continue", "Trigger by sensor", or No recording.

5.6.3.1. CONTINUE

The DVR is continuously recording in the background no matter what. It never stops unless the DVR is powered down or the storage media is removed from DVR. Therefore, video files are constantly generated in the background filling up the storage device. It is recommended this mode to be the default mode for video recording.

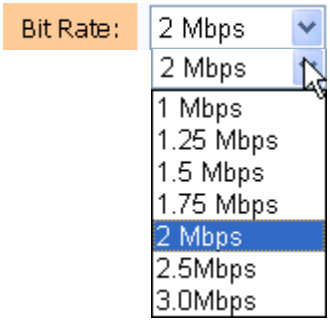
5.6.3.2. TRIGGER BY SENSOR

In this mode, the DVR only records if it detects an event trigger on one of the programmable sensors. If this is the mode you want your DVR to use then don't forget to enable the required sensors.

5.6.3.3. NO RECORDING

This mode disables the camera input.

5.6.4. BIT RATE

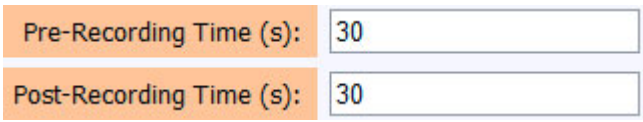


The bit rate is also pre-set from the manufacturer to the default setting of 1 Mbps. Changing this setting will increase or decrease the picture quality, the smaller the bit rate the smaller the file size but less picture quality; the bigger the bit rate the bigger the file size and better picture quality.

5.6.5. TRIGGERS

The DVR has 8 digital inputs available to connect to sensors. This triggers menu allows you to select which sensor(s) will trigger the recording process. By placing a check in the "Trigger" box corresponding to the sensor number on its left will activate that sensor. All sensors can be enabled simultaneously. OSD stands for On-Screen-Display; this feature embeds the sensor name (assignable by end-user) into the video files. When playing back the video, the sensor(s) can be identified by the embedded text on the video. Placing a check mark on the OSD box enables this feature.

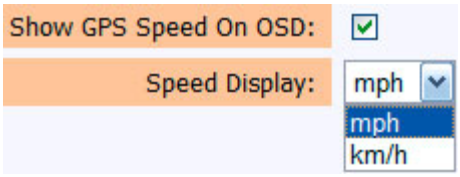
5.6.6. PRE-RECORDING & POST-RECORDING TIME



Pre-recording defines how many seconds of video you want to include in the triggered event prior to the time the trigger occurred. Post-recording defines how many seconds of video you want to include in the triggered event after the time the trigger occurred.

For the above example, if the sensor got triggered at 12:00:00, the event would include 30 seconds of video before the trigger and 30 seconds after the trigger, from 11:59:30 to 12:00:30 creating a marked event containing 60 seconds of video. Values can be from 1 second to 600 seconds (10 minutes).

5.6.7. SHOW GPS SPEED ON OSD



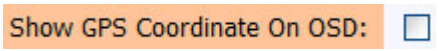
GPS information is also available on the mDVR306 provided you have the GPS option which includes a GPS antenna that connects to the mDVR306 and is installed on the vehicle. GPS data is recorded on the storage media as well as embedded into the video stream. Place a check mark in the box to display and record the vehicle GPS speed in the video stream. Speed can be displayed in "mph" or "km/h". If this option is not enabled, GPS data is still recorded in a log file on the video storage media.

MiniTRACK is a software application, combining recorded GPS data with GIS mapping to allow you to monitor vital vehicle information. Track Stopping, Idling and speeding occurrences; Create custom reports; Export data to other software for review and analysis. MiniTRACK not only helps reconstruct disputes and incidents, but can also provide valuable information to improve your fleet management strategies.

VideoTRACK builds on the features of MiniTRACK allowing you to visually manage recorded video that's been synchronized with GPS data, enabling you to not only know, but also see exactly what happened where, and at precisely what time.

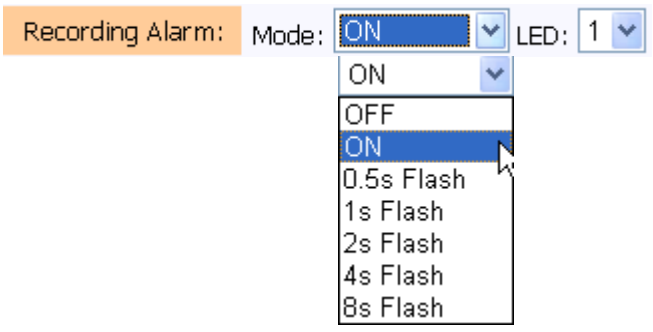
Contact your dealer for further information on these products.

5.6.8. SHOW GPS COORDINATE ON OSD

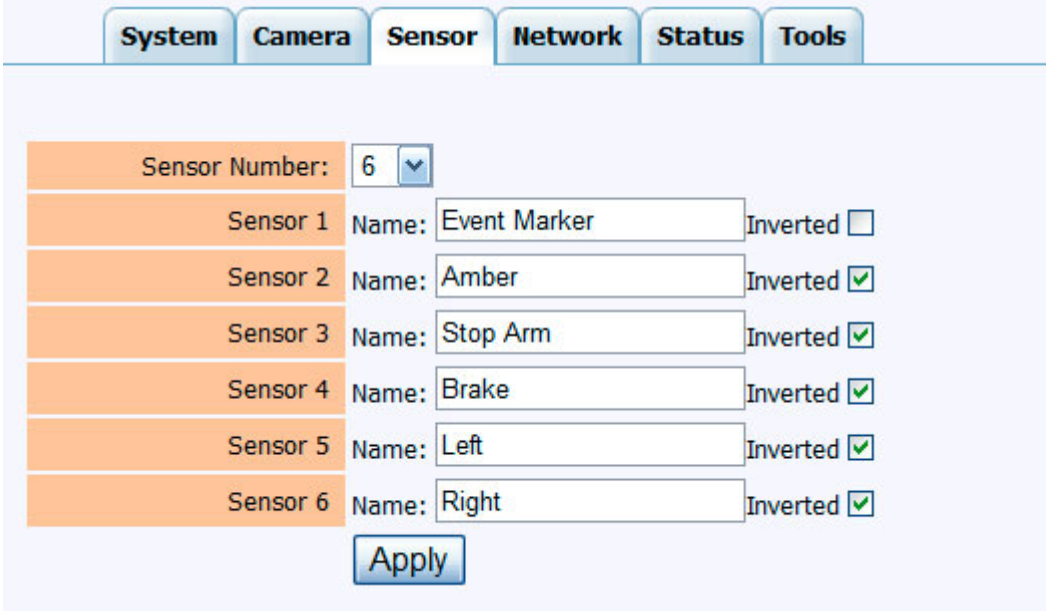


Place a check mark in this box to display and record the vehicle GPS coordinates in the video stream. Coordinates are displayed as longitude and latitude values. If this option is not enabled, GPS coordinates are still recorded in a log file on the video storage media

5.6.9. RECORDING NOTIFICATION



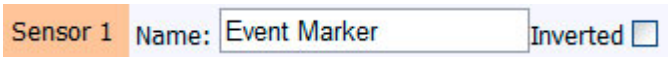
5.7. SENSOR CONFIGURATION MENU



The mDVR306 provides 8 digital inputs. The digital inputs are used to connect to any sensors that are available in your vehicle. You can assign a unique name to all sensors listed in the menu. Shown in the menu are the factory default settings. The sensor name will be recorded on your video file if OSD (On-Screen-Display) is enabled.

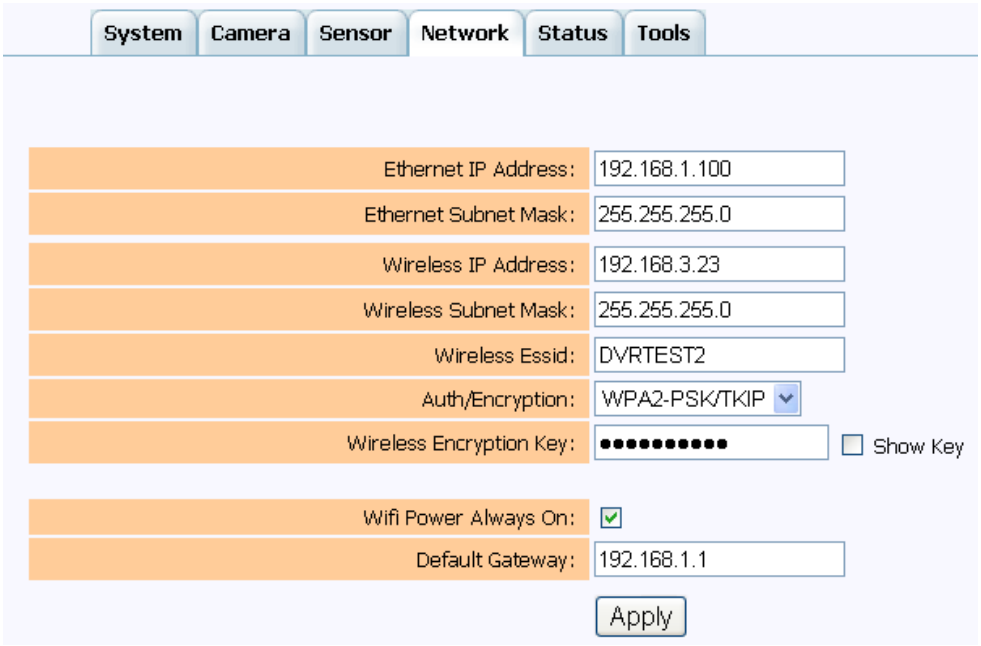
"Inverted" defines how the sensor should work. For instance, if you check the box "Inverted" then the mDVR306 detects "0" as the active state of the sensor. If the check box is un-checked then the mDVR306 detects "1" as the active state of the sensor. Please make sure you understand how your sensors work before connecting them to the digital inputs.

5.7.1. SENSOR 1 TO 6



This optional lets you enter the sensor name for the specified digital input and select what the active state of the sensor should be when triggered.

5.8. NETWORK MENU

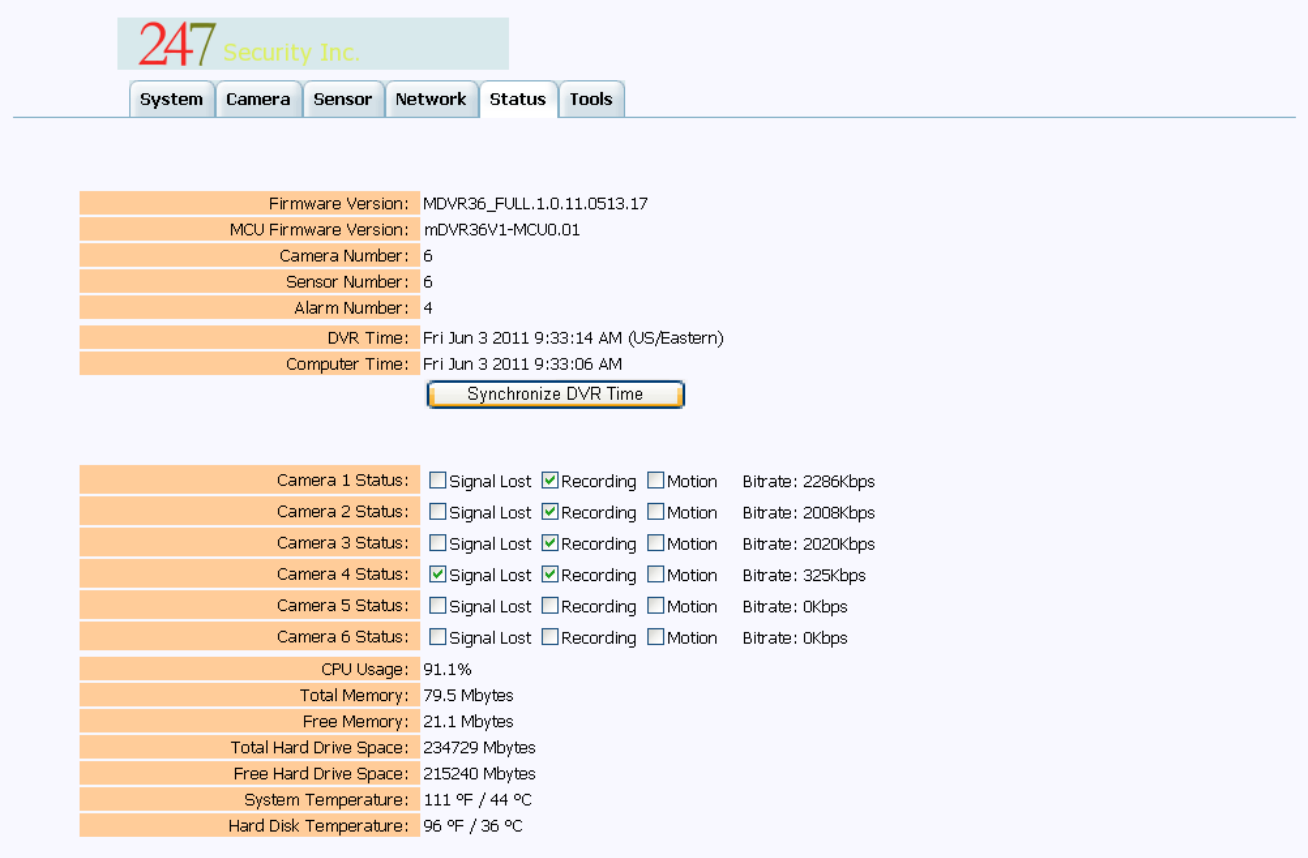


The default Ethernet IP address of the mDVR306 is "192.168.1.100" and should not be modified unless necessary. If this IP address is modified the user will **NOT** be able to access the DVR if the IP address is lost.

The default wireless IP address of the mDVR306 is "192.168.3.100" and can be changed to integrate the unit into your wireless infrastructure. The wireless Essid and encryption key can be obtained from your IT department and entered into this page. Once setup is complete, the DVR can be accessed via your wireless network. If the SmartServer option is purchased, the DVR can automatically upload video events upon wireless range of your access point. For example, if your vehicles are all equipped with the wireless option and you have purchased the SmartServer technology, your vehicles upon returning from their route will automatically upload to your SmartServer computer all the video events. User can then review the video events from within the office or from a remote location with access to the SmartServer computer.

The default gateway IP address is used when DVR needs to accessed remotely via the Internet or from a different network. The default gateway IP address is usually your router IP address. Contact your dealer for further information.

5.9. STATUS MENU


247 Security Inc.
System
Camera
Sensor
Network
Status
Tools
Firmware Version: MDVR36_FULL.1.0.11.0513.17
MCU Firmware Version: mDVR36V1-MCU0.01
Camera Number: 6
Sensor Number: 6
Alarm Number: 4
DVR Time: Fri Jun 3 2011 9:33:14 AM (US/Eastern)
Computer Time: Fri Jun 3 2011 9:33:06 AM
Synchronize DVR Time
Camera 1 Status: Signal Lost Recording Motion Bitrate: 2286Kbps
Camera 2 Status: Signal Lost Recording Motion Bitrate: 2008Kbps
Camera 3 Status: Signal Lost Recording Motion Bitrate: 2020Kbps
Camera 4 Status: Signal Lost Recording Motion Bitrate: 325Kbps
Camera 5 Status: Signal Lost Recording Motion Bitrate: 0Kbps
Camera 6 Status: Signal Lost Recording Motion Bitrate: 0Kbps
CPU Usage: 91.1%
Total Memory: 79.5 Mbytes
Free Memory: 21.1 Mbytes
Total Hard Drive Space: 234729 Mbytes
Free Hard Drive Space: 215240 Mbytes
System Temperature: 111 °F / 44 °C
Hard Disk Temperature: 96 °F / 36 °C

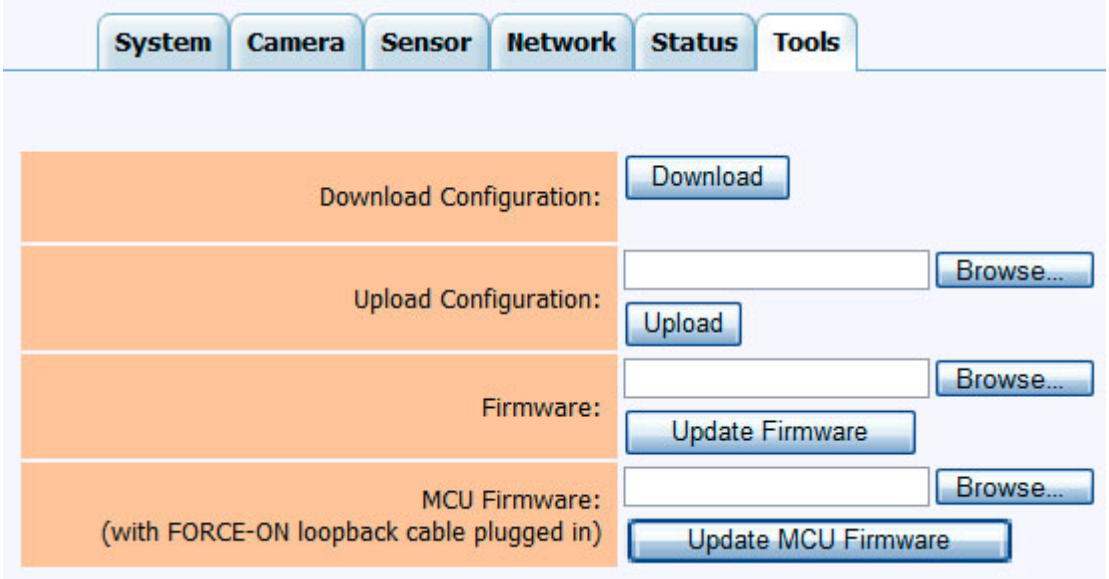
This tab displays the current system configuration and a real time heath status summary of the DVR. Starting from the top, this tab informs the user which firmware versions are currently loaded, number of cameras, sensors and alarms the DVR currently supports and the current DVR time as well as your local computer time.

The local computer time is extracted from your computer which is currently connected to the DVR.

The “Synchronize DVR Time” button will synchronize the DVR time with the local time on the connected laptop or computer.

The information below the “Synchronize DVR Time” button provides the user a general system health of the DVR as well as indication of all camera inputs status.

5.10. TOOLS MENU

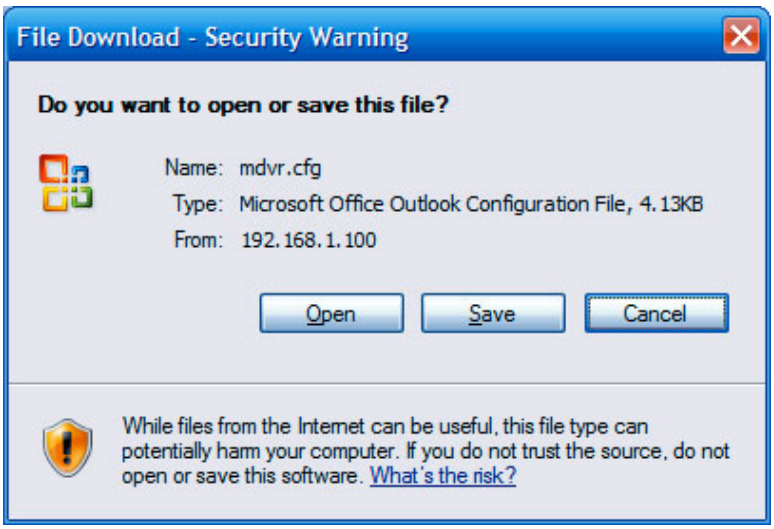


This tab will allow the user to backup the DVR configuration as well as update the firmware. There may be future releases of the DVR firmware that may contain new features or improvements. Contact your dealer for firmware updates.

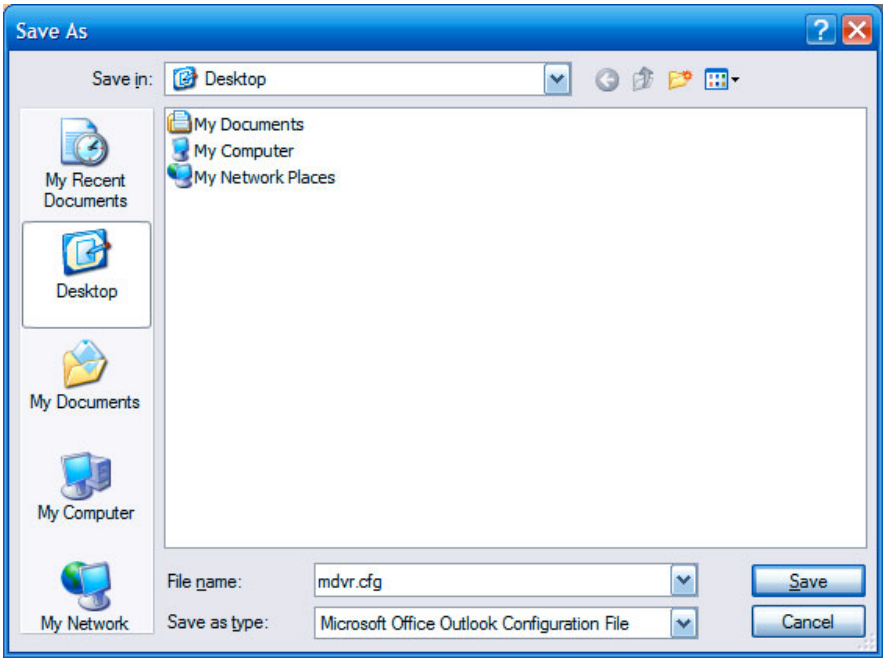
5.10.1. DOWNLOAD CONFIGURATION

This option is useful and will save you time when multiple mDVR306 systems need to be configured. Once the DVR has been configured, click the "Download" button to save your settings to a file on your desktop or a location of your choice.

Click the "Download" button and the following window will appear


File Download - Security Warning
Do you want to open or save this file?
Name: mdvr.cfg
Type: Microsoft Office Outlook Configuration File, 4.13KB
From: 192.168.1.100
Open
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not open or save this software. What's the risk?

Select a folder location of your choice and click the "Save" button. A file named "mvdr.cfg" will be saved the chosen location. You can then rename this file to whatever you want to better identify which DVR it came from. For example, you can rename the file to incorporate the vehicle name and the date it was configured like the following: "BUS109-310709.cfg".

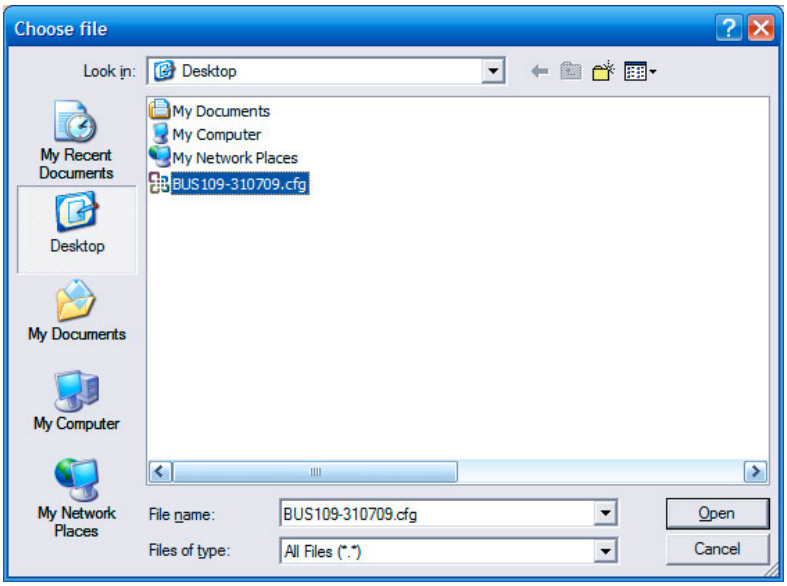


5.10.2. UPLOAD CONFIGURATION

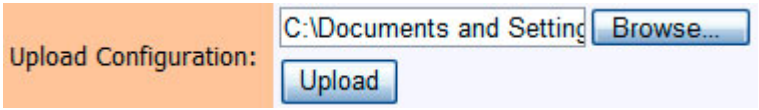
This option allows you to select a backup configuration file and upload it to the DVR. This feature will overwrite all the current settings with the settings from the configuration file. The only value you may need to change is the "DVR Server name" under the System tab because it was just overwritten with "DVR Server name" from the configuration file. **Note:** All previous video data on the DVR will be lost if you do an upload.

Note: Download and Upload Configuration feature is not compatible between different versions of firmware; this feature should only be used when deploying multiple DVRs with same hardware and software. Installer would configure the first DVR and then download the configuration to his computer, when installing the subsequent DVRs, installer merely has to upload the previously save configuration and change the DVR name.

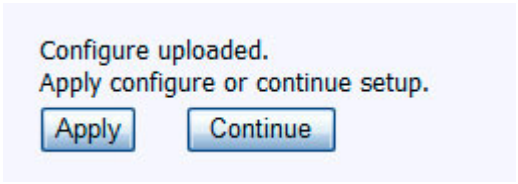
Click the “Browse” button to open the “Choose file” window and select the configuration file you wish to upload. Click “Open” once the configuration file is selected



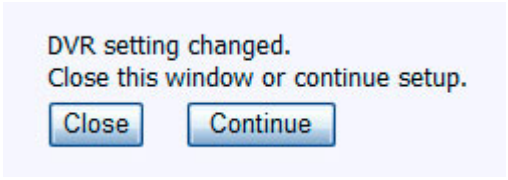
Click “Upload” to start the upload process



Click “Apply” to apply the new settings or “Continue” to review your new settings before applying. Once you apply the new settings there, the previous settings will be lost. It is recommended to click “Continue” so that you can verify all the new settings.



Click “Close” to close the DVR setup or “Continue” to make additional changes. You may need to change the “DVR Server Name” at this point or adjust another specific setting relevant to the new vehicle or application.



5.10.3. UPDATE FIRMWARE & MCU FIRMWARE

This feature will allow the user to update the firmware and MCU firmware of the mDVR306 system if needed. Firmware updates may contain new features and improvements, the update process should only be done by a qualified technician. If the update process is not done correctly, your DVR may fail to start properly and must be retuned to your dealer for repair. Follow the following steps to successfully update your mDVR306 system firmware.

1. Hard Drive Removal
   a. If DVR is running, turn key lock to off position and wait until DVR powers off
   b. Insert Force Power on Cable into GPIO2 port then Remove hard drive
   c. Turn key lock to on position and wait until DVR boots up. DVR has finished booting when both Ignition LED (green) and Power LED (green) are on solid.

2. Connect to DVR and Save Current Configuration
   a. Connect cross-over network cable between DVR and your computer
   b. Verify your computer LAN IP address is 192.168.1.50
   c. Launch Internet Explorer
   d. Type http://192.168.1.100/ to access DVR setup
   e. You should now be at the login page
   f. Type “admin” as the User Name and “admin” as the password
   g. Go through each page and manually record on paper all the settings, it is very important to record the correct DVR Server Name.

3. Upgrading MCU (1 to 2 minutes)
   a. Go to the TOOLs Tab in the setup page
   b. Insert Force Power-on plug into the “GPIO2” port on the rear of the system
   c. Browse for latest MCU file (example v5.7; MDVR306A57.hex)
   d. Update MCU
   e. After about 30 seconds you should receive the following message “MCU firmware update succeeds. Please un-plug FORCEON cable. System reboot.”
   f. Remove Force Power-on plug and wait for about 50 seconds until DVR restarts
   g. Click “Close” to close the Internet Explorer page
   h. Launch Internet Explorer
   i. Type http://192.168.1.100/ to access DVR setup
   j. Verify the new MCU version on the status page

4. Upgrading Firmware (5 minutes)
   a. Make sure the Force Power-on plug into the “GPIO2” port in the back of the system and after DVR boot-up, both ignition LED(green) and Power LED (green) should be on solid.
   b. Launch Internet Explorer
   c. Type http://192.168.1.100/ to access DVR setup
   d. Browse for the latest Firmware (currently HOST_DEP_MDVR36_FULL1.0.11.0629.15 FW). Make sure the firmware update file has the HOST_DEP at the beginning because this firmware will set DVR to factory default settings.
   e. Update Firmware
   f. After about 10 seconds you should see the message “Updating firmware...DVR will reboot itself please wait for 300 seconds” on browser http://192.168.1.100/firmware.html , and the time will be counting down to 0 seconds.
   g. Reset power and waiting for DVR to boot-up
   h. After DVR boot-up, both ignition LED (green) and Power LED (green) should be on solid
   i. Launch Internet Explorer

j. Type http://192.168.1.100/ to access DVR setup
k. Verify the new firmware version on the status page

5. Reconfigure System
   a. After DVR boot up, both Ignition LED (green) and Power LED (green) should be on solid.
   b. Launch Internet Explorer
   c. Type http://192.168.1.100/ to access DVR setup
   d. Update settings to the settings previously recorded on paper
   e. Make sure the DVR name is exactly what it was before
   f. Click “Apply” to apply the new settings.

6. Return hard drive
   a. Make sure DVR Server Name on system configuration page is the same name on hard drive
   b. And make sure the Force Power-on cable is removed from the GPIO2 port on the back of the system
   c. Turn key lock to off position and wait until DVR powers off
   d. Insert hard drive
   e. Turn key lock to on position and wait until DVR boots up

7. Verify functionality
   a. Launch Internet Explorer
   b. Type http://192.168.1.100/ to access DVR setup
   c. Verify new settings
   d. Go to “Tools” tab and click “Download” to save new working configuration of the bus and name the configuration file to something like bus name-current date.
   e. Launch DVRViewer
   f. Connect to DVR
   g. Click “Play” and select “Live View”
   h. Connect to DVR
   i. Verify live view of cameras
   j. Verify “Record” LED on Event Marker is on, indicating that DVR is currently recording video
   k. You are done.

6. DVRVIEWER

6.1. INTRODUCTION

The DVRViewer application allows user to preview, playback and setup the mDVR306 which can be installed on multiple computers or laptops. A laptop is very useful when installing the mDVR306 in the vehicle so that installer can properly aim the cameras and setup the camera parameters as well as system configuration. DVRViewer can also be installed on an office computer to be able to search and playback video or events from the mDVR306 storage media.

6.2. SOFTWARE CLIENT FEATURES

- Multiple Channel Screen Pre-view formats: 2x2, 3x3, 4x4 and 1, 2 & 4 channels
- Real time remote Preview, Remote Search / Playback, Video Screen Snap Shot
- Fast forward / Backward, Slow Play, Frame by Frame stepping, 20 seconds jump forward / backward, and Pause are supported in Play Back Mode
- Client Software can remotely configure mDVR306 via a network cross-over cable or a wireless network connection
- Search / Play Back when removable storage media is connected to local computer
- Convenient coded color timeline bar to search and retrieve video files by time /date/month in a few mouse clicks. A calendar is also available to allow users to search for video for the day and month required.
- User can create custom video files by specifying Start and End Times using the “Custom Clip” feature and then save these files to their local hard drive.
- User Management allows only the “Admin” user to gain complete access to the mDVR306 system such as configuration, update maintenance, copy/delete video files, and create users account. Alternatively, normal User has limited access to the mDVR306 system.

6.3. SYSTEM REQUIREMENTS

The Recommended System Requirements are:

- Windows XP/Vista (32-bit) / WIN 7
- Pentium IV 2.4Ghz CPU or equivalent
- 512MB RAM or better
- Graphics card with 32MB of RAM or more and supporting 24-bit color or better using Intel, ATI or NVIDIA GPU
- 24-bit color is recommended for best video quality
- Screen resolution of at least 1024x768
- DirectX 7 compatible sound card
- DirectX 9 or higher with DirectDraw Acceleration enabled
- Internet Explorer 7 or higher
- USB 2.0 port

6.4. INSTALLATION

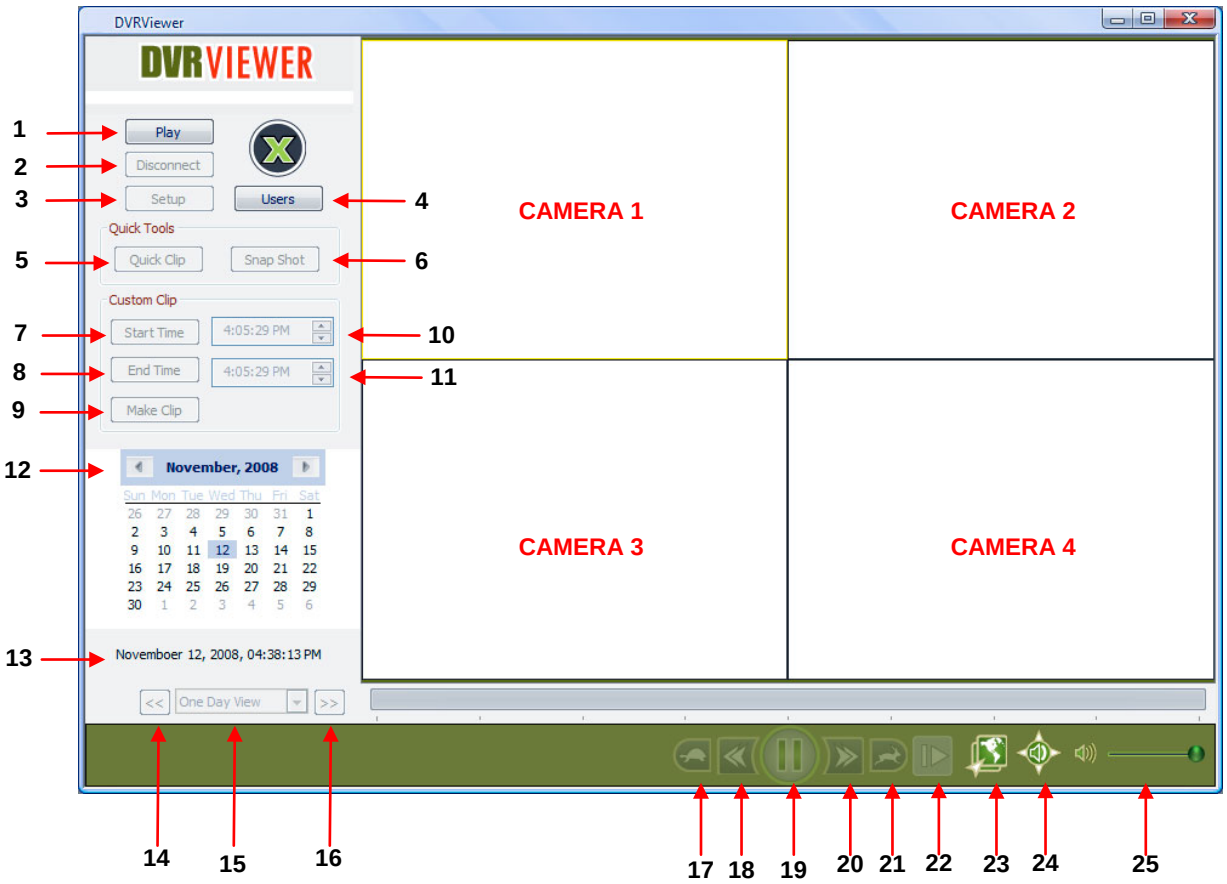
Insert the CD that came with the mDVR306. Locate the CD and look for the installation file. Once installation has finished there should be an icon called “DVRViewer” on the desktop. Double-click on the icon “DVRViewer” to start the DVR client software.

6.5. STARTING DVRVIEWER

The first screen that appears when you start the DVRViewer application will be the LOGIN screen. If this is the first time logging in the default username and password will be "admin" and "247SECURITYINC". Both the Username and password are case sensitive. If you forget or lose your password please contact 247Security Inc Technical Support for help.

Please make sure you change your temporary admin password to something else that is easier for you to remember by clicking on the "Users" button. Follow instructions on the screen to assign a new password.

After logging in, the following main screen will appear, see below for description on the controls and buttons.



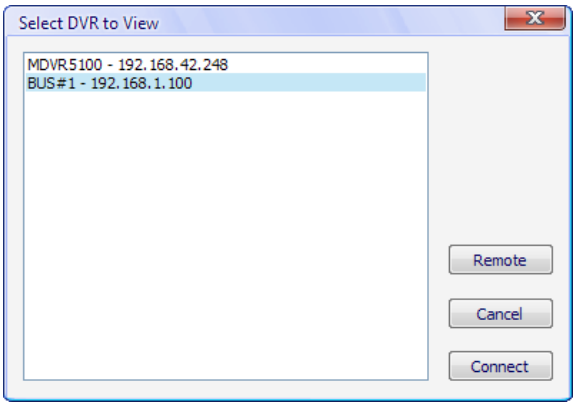
The controls and buttons in the main screen:

No	Name	Description
1	Play	Brings up these options: Live View, Play Archive, Play File
2	Disconnect	Disconnects DVRViewer from a DVR or from a media storage
3	Setup	Enters DVR setup
4	Users	Enables user to create, delete and modify users
5	Quick Clip	Creates 1 minute video file 30 seconds before selected time to 30 seconds after
6	Snap Shot	Creates a single frame jpeg picture file

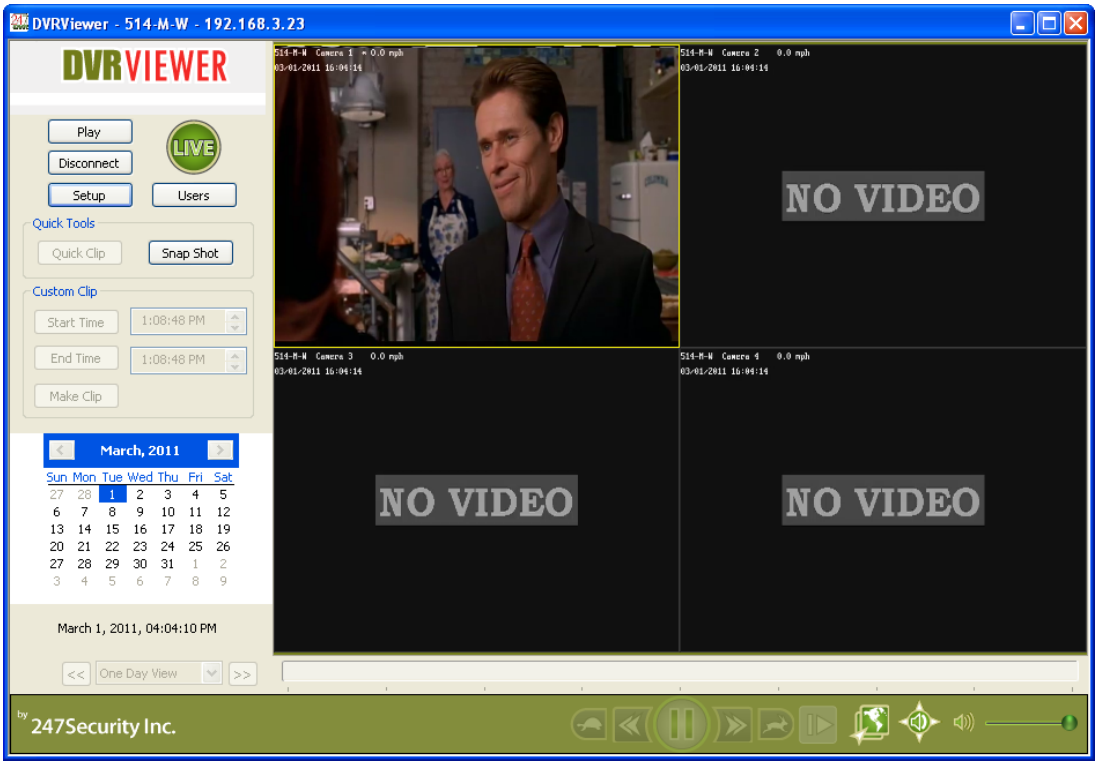
7	Start Time	Sets the start time automatically based on the current cursor timeline position
8	End Time	Sets the start time automatically based on the current cursor timeline position
9	Make Clip	Creates a custom video clip starting from the start time and end time entered
10	Start Time	Let's user manually set the start time
11	End Time	Let's user manually set the end time
12	Calendar	Displays current month calendar of video playback
13	Date & Time	Displays current date & time of video playback
14	Previous	Goes back one hour or day as set below
15	Slider Bar Time Range	Switches between One Day View, One Hour View or 15 Minute View during playback
16	Next	Advances one hour or day as set above
17	Slow	Slows down playback speed
18	Jump Backward 20 Seconds	Jumps backwards video playback 20 seconds
19	Pause / Play	Pauses or plays video playback
20	Jump Forward 20 Seconds	Jumps forward video playback 20 seconds
21	Fast	Accelerates playback speed
22	One Frame Forward	Advances one frame forward while in Pause mode during playback
23	Start / Stop MiniTRACK	Starts or stops the connection to the MiniTRACK server. An Internet connection is needed for this connection. To use this feature you must purchase the Video-Track option
24	Audio All Channels/Single Channel	Switches audio playback from all channels simultaneously or a single channel
25	Volume Control	Slider Bar to control volume from 0 (Mute) to 100

6.6. LIVE VIEW

The feature is mostly used when setting up the mDVR306 so that the installer can properly aim the cameras in the vehicle. Once the DVRViewer application is running, click on the play button and select "Live View". You will get the following window:



Select the DVR you want to connect to so that it's highlighted and then click on "Connect" button.



Installer should now be viewing the real time video from the cameras connected. The above screenshot shows four video channels enabled with only one cameras connected, if the mDVR306 is not receiving video from the camera, the video channel will display a black screen.

6.6.1. SELECTING SCREEN LAYOUT

This feature enables the user to select between 1, 2, 4, 6, 8, 9 and 16 screen divisions depending on how many video channels the DVR has. By pressing function key “F8” will scroll through the different screen layouts available.

6.6.2. CAMERA SELECTION

The function key “F7” enables user to select camera by scrolling through the available cameras or you can simply use the mouse and click a specific camera to make it the active camera. When audio is set to single channel mode, the active camera is the only one playing audio.

6.6.3.CAMERA MENU

The camera menu can be opened by right-clicking on a camera or by pressing function key “F6” on the active camera. From this menu user can assign a different video input.

6.6.4. SNAPSHOT

This feature enables the user to create a single frame snapshot of the active camera and then save it as jpeg picture file or print it directly to a printer attached to the laptop / computer.

6.6.5. SETUP

You can access the mDVR306 SYSTEM CONFIGURATION by clicking on the "SETUP" button from the DVRViewer application and login in using the default username and password of "admin" and "admin".

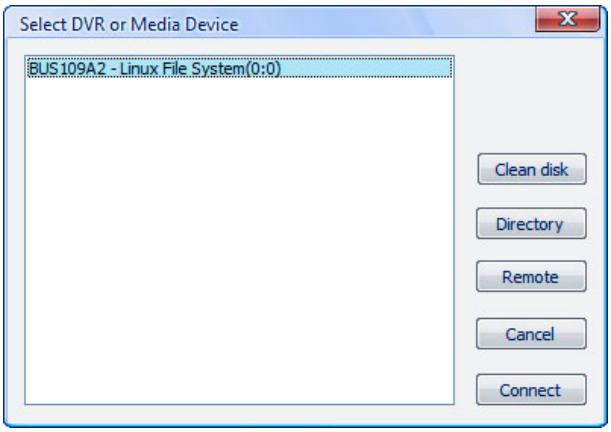
6.6.6. DISCONNECT

This button simply disconnects DVRViewer from the mDVR306

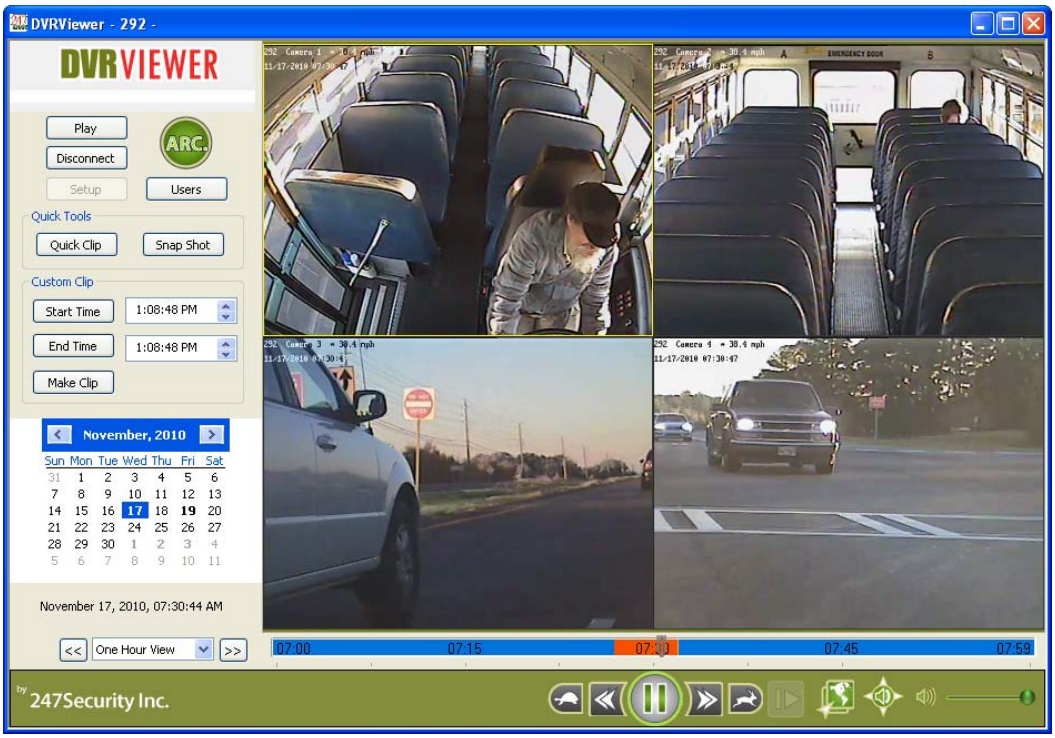
6.7. PLAY ARCHIVE

To playback recorded video, the media storage must be removed from the mDVR306 unit and plugged into your laptop / computer using the Mini USB Cable that was included with the purchase of your mDVR306.

Connect the Mini USB connector to the media storage device and the USB connector to your laptop / computer and start DVRViewer application. Once DVRViewer is running click on "Play" button and select "Play Archive" and you should se the following window.



Select the media storage device from the list so that it's highlighted and then click on "Connect" button.



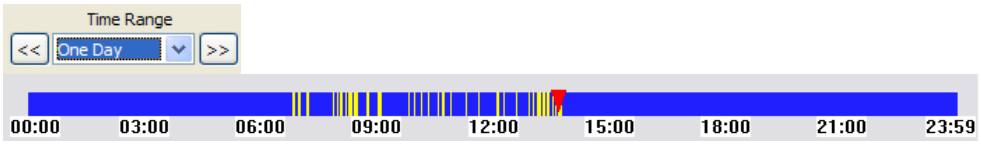
After selecting the media storage device, DVRViewer will scan the media for video / audio and categorize it by time and date using the calendar and a time bar at the bottom of the screen. The above screenshot is an example of what should now be displayed on your desktop. The calendar and timeline bar are used for searching and playing back your video.

6.7.1. SEARCH VIDEO BY CALENDAR AND TIMELINE BAR

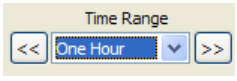
Using the calendar, you can select the date you wish to search for video files. "Bold Text Number" indicates video is available on that date. Allow a few seconds for the retrieval and listing of video that you can select on the timeline bar.

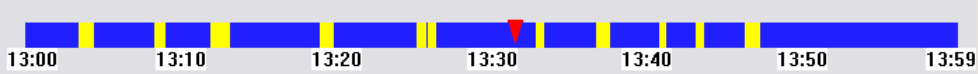
There are two modes that you can view the recorded video on the timeline bar:

1. One Day - Timeline bar can be set to "One Day" which allows user to select any video between 00:00 and 24:00



2. One Hour - Timeline bar can be set to "One Hour" which allows user to select any video in 1 hour increments. You can also select 15 minute increment.



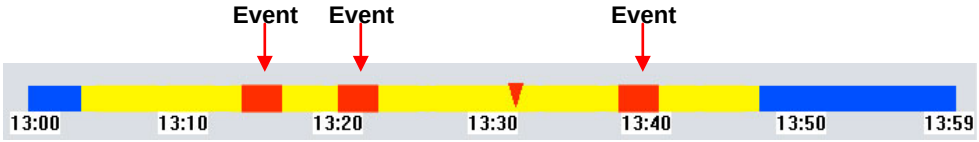


The timeline bar is used to display the available video in the time mode selected above. The different colors on the bar represent the different types of video. See below for description of the colors used in the timeline bar:

Yellow: Recorded video searchable by moving bar along the time line or using the playback controls below the timeline bar.
Red: Locked recorded video that was marked by either the event marker or triggered by a sensor during the recording process.
Blue: No video recorded

6.7.2. SEARCH VIDEO BY EVENT

Using the timeline bar, you can search for events that were marked by the event marker or triggered by a sensor. These video events are indentified by red color in the timeline bar. In the example below, there are 3 marked events between 13:00 and 13:59. The greater the Pre-Lock / Post-Lock values the greater the red bars on the timeline bar.



6.7.3. PLAY BACK CONTROL

DVRViewer allows total control of the video being played back. User can fast track or slow down video play back by using the “Slow” or “Fast” buttons. User can also pause or resume video playback using the “Pause/Play” button.

In addition, to playback video frame by frame click on “Pause/Play” button to pause the video playback first then click the “One Frame Forward” button, this will advance one frame every time the “one Frame Forward” button is clicked.

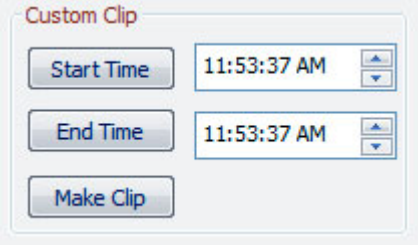
For quick access to a specific event, user can jump forward or backward 20 seconds by clicking on the “Jump Backward 20 Seconds” or “Jump Forward 20 Seconds” buttons. This allows the user to pinpoint the exact time when an event occurred.

DVRViewer allows the user to play audio on all channels simultaneously or from a single channel by using the “Audio All Channels/Single Channel” button. When audio is set play form a single channel, user can select any camera by clicking on the window to listen to that specific audio feed.

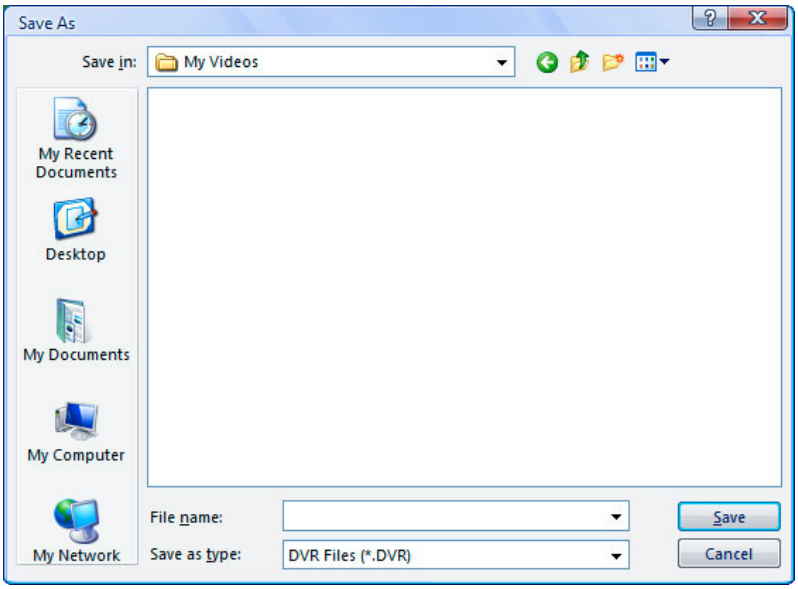
No	Name	Description
1	Slow	Slows down playback speed
2	Jump Backward 20 Seconds	Jumps backwards video playback 20 seconds
3	Pause / Play	Pauses or plays video playback
4	Jump Forward 20 Seconds	Jumps forward video playback 20 seconds
5	Fast	Accelerates playback speed
6	One Frame Forward	Advances one frame forward while in Pause mode
7	Audio All Channels/Single Channel	Switches audio playback from all channels simultaneously or a single channel
8	Volume Control	Slider Bar to control volume from 0 (Mute) to 100

6.7.4. EXPORT VIDEO

"Custom Clip" menu allows user to create a video file with custom start and end times. User can move the pointer on the timeline bar to the desired time location and set this location as begin time by clicking on "Start Time" button. Same procedure applies to setting the end time but clicking on "End Time" button. Both "Start Time" and "End Time" boxes should now have the desired time stamps you selected to create your video file. User can also manually input these time stamps by typing directly into each box. With the latest version of DVR Viewer you can also export the clip as an .AVI file. Just be aware that when using this option the saved clip can be viewed by anyone.



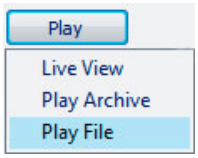
Finally click on "Make Clip" button to save the selected video time frame in a new video file on your computer. This video file will have a ".DVR" extension and can be stored on a hard disk, CD, DVD, USB thumb drive, etc... for later retrieval and viewing.

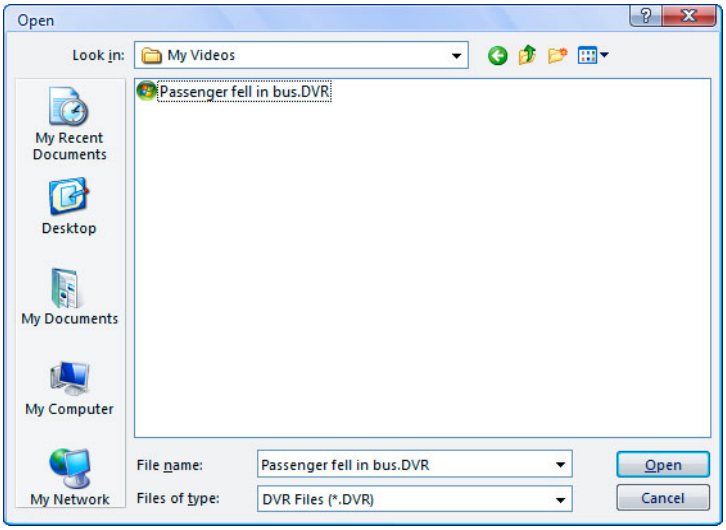


The new video file with ".DVR" extension is an encrypted file and can only be played by the DVRViewer application; this feature disables the ability of manipulating the video data so that it can be used in legal matters.

6.8. PLAY FILE

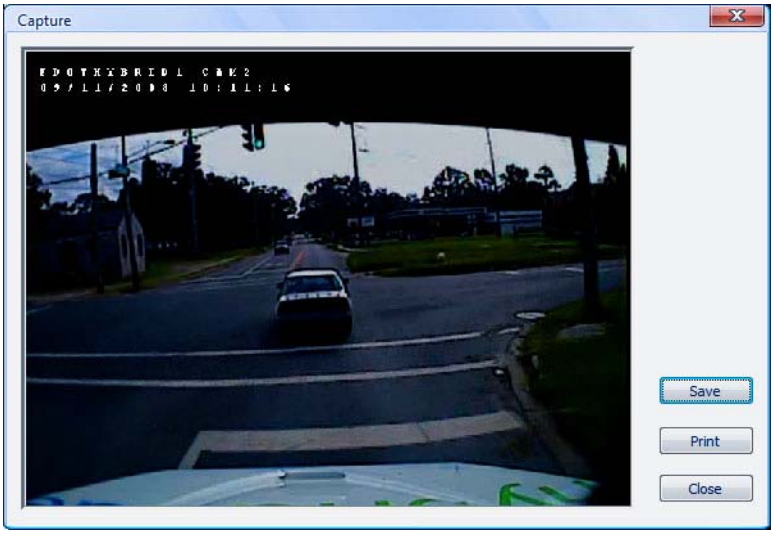
This button will prompt user to open a video clip previously saved on their hard disk, CD, DVD, USB thumb drive, etc... using the "Custom Clip" feature. All video and audio will start playing immediately and the standard playback controls as described in 6.7.3 are available for control of playback.





6.9. SNAPSHOT

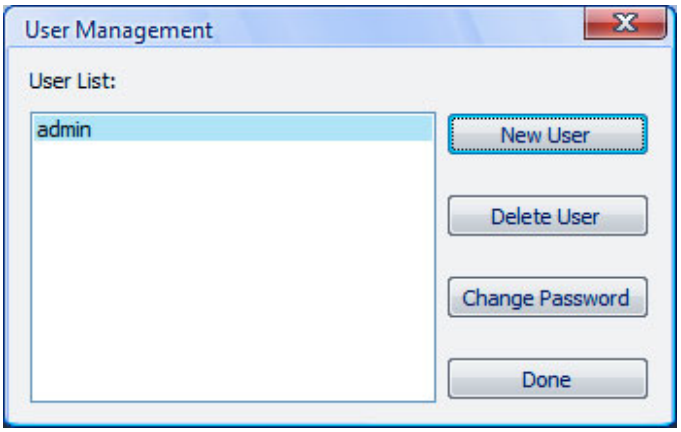
This feature enables the user to create a single frame snapshot of the active camera and then save it as jpeg picture file or print it directly to a printer attached to the laptop / computer.



6.10. USERS

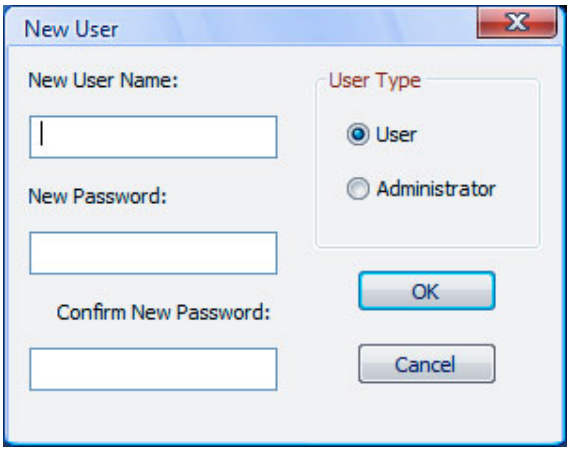
6.10.1. USER MANAGEMENT

From the main screen click on “Users” to access the mDVR306 user management interface. There are two types of users, “User” with limited rights or “Administrator“ with full access to the mDVR306 system. A standard user with limited rights can preview and copy recorded video files from storage media. A user setup with Administer rights can control, configure, copy and delete video, update software and firmware, erase media storage, etc ...



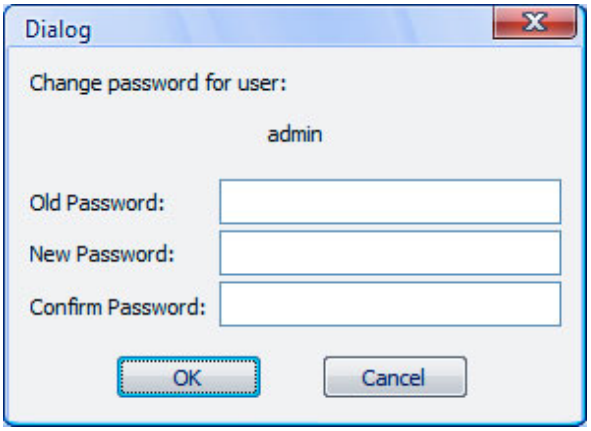
6.10.2. ADD/DELETE USER

Click on "New User" button to create a new user. Enter a user name and password and select the user type to create the new user. Only Administrator users can add or delete users. The default Administrator user called "admin" cannot be deleted.



6.10.3. CHANGE USER PASSWORD

Click on "Change Password" to change user's passwords. You are required to enter the correct old password in order to assign a new password.
Note: If you have forgotten the "admin" password than you will need to re-install your DVRViewer application to reset the password back to the default setting.



7. SUPPORT INFORMATION

247Security Inc. provides several methods for contacting Technical Support listed below.

- Visit our website at www.247securityinc.com and click on “Support”
- Email us your questions directly to support@247securityinc.com
- Calling our direct line Toll-Free at 1-866-693-7492

8. LIMITED WARRANTY

(see next page)

247 SECURITY

LIMITED WARRANTY

1. GENERAL

Seller warrants its products to be free from defects in materials and workmanship under normal use and service for three (3) years from the date of purchase for Digital Video Recorders, and three (3) years from the date of purchase for Hard Drive and Camera products. Except as required by law, this Limited Warranty is only made to Buyer and may not be transferred to any third party.

Seller shall have no obligation under this Limited Warranty or otherwise if:

(i) The product is improperly installed, applied or maintained;
(ii) Improperly service or repaired by anyone other than the Seller or the Seller's Authorized Service provider.
(iii) Damage caused by natural occurrences, such as lighting, power surges, fire, floods or acts of god.
(iv) Defects resulting from unauthorized modification, misuse, vandalism, alterations or other causes unrelated to defective materials or workmanship.

Non-seller manufactured products are warranted by the third party for a period as defined by the third party. As permitted, Seller assigns to the Buyer those warranties and does not itself warrant any non-Seller manufactured products and sells only on an as is basis.

2. EXCLUSIONS OF WARRANTIES, LIMITATION OF LIABILITY

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By accepting the products, to the fullest extent permitted by law, Buyer assumes all liability for, and agrees to indemnify and hold Seller harmless against and defend Seller from, any and all suits, claims, demands, causes of action and judgments relating to damages, whether for personal injury or to personal property, suffered by any person, firm, corporation or business association, including but not limited to, Buyer's customers and/or users.

3. RETURNS AND REPAIRS

Subject to the terms and conditions listed below, during the applicable warranty period, Seller will repair or replace, at its sole option, free of charge any defective products returned prepaid. In the event that you have a problem with any Seller product, please call 247Security Customer Service and request a RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER.

In the USA and CANADA, call 1-866-693-7492 or 1-404-731-7619.

Be sure to have the model number, serial number, and the nature of the problem available for the Customer Service Representative. Prior authorization MUST be obtained for all returns, exchanges, or credits. ITEMS SHIPPED TO SELLER WITHOUT A CLEARLY IDENTIFIED RMA NUMBER MAY BE REFUSED.

Products returned will be tested to verify the defect. Upon verification, the product will be repaired, exchanged, or credited to Buyer's account, at the sole discretion of Seller. In the event of replacement, the returned product will be credited to Buyer's account and a new invoice issued for the replacement item. If the product is found to be in good working order or its inability to function properly is a result of user damage or abuse, the product will be returned in the same condition as received unless repair is possible and requested by Buyer. Repairs of such nature will incur a charge for parts and labor and will proceed only by agreement with Buyer to accept the charge.

Non-Warranty Repair: Buyer will be charged for repairs to an out of warranty product. Applicable charges will be calculated and quoted when an RMA number is issued; however, charges may vary based on actual product condition. Buyer must pay shipping costs to the Seller Repair Department. Costs to repair and return defective products will be the responsibility of the Buyer. For all non-warranty repairs, Buyer will be billed for parts, labor and shipping. Non-warranty repairs are warranted for 90 days from date of repair.

4. GOVERNING LAW

If the Buyer acquires the Seller's product in the United States of America, the laws of the State of Georgia apply to this Limited Warranty. If the buyer acquires the Seller's product in Canada, except where expressly prohibited by local laws, the laws in force in the Province of Ontario, Canada apply to this Limited Warranty and each of the parties hereto irrevocably attorns to the jurisdiction of the courts of the Province of Ontario and further agrees to commence any litigation which may arise hereunder in the courts in the Judicial District of York, Province of Ontario.

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